"OFFICIAL JOURNAL OF THE UNITED STATES ATV SOCIETY"

AMATEUR TELEVISION MAGAZINE™

MAY 1984 VOL 14 NO. 5 PUBLISHED MONTHLY "OUR 17TH YEAR" $2.00

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FIRST TRANSATLANTIC "FAX" DX PICTURES EXCHANGED!

NEW MITSUBISHI P50U VIDEO PRINTER WILL REVOLUTIONIZE INDUSTRY

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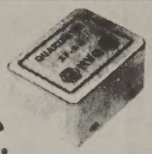
Amateur Radio-TV Station KN3ZAN and KA3IUQ,
Dave and Pat Warheit, Freeport, PA.
(Photo by Lew Caporali, KA3IUA)



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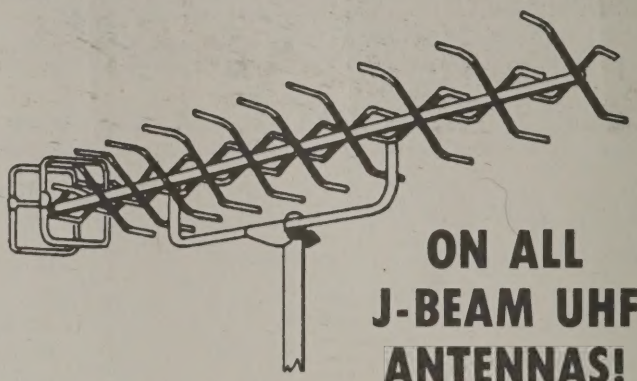

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"For the specialized communication radio amateur"

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See You At Dayton

"NEW" BOOTH LOCATION #279

May 1984 Volume 14 No. 5

TAKE ONE

A5 Editorial Comments

Spring has finally arrived! Our recent trip to the CHARLOTTE, NC. Hamfest not only offerred us a great time, but a chance to view Spring unfolding in the South. About 3 weeks later, the same seasonal change started here in the midwest while it seems the east got dumped on again with about 8 inches of "Spring"! As we just go to press, let's see what weather the Dayton, Ohio Hamvention has to offer this year?

Here is our MAY 1984 issue. This will be the Spring "handout" sample issue at Dayton. If this is your first glimpse at "A5", welcome to the USATVS Journal! While other groups are still "talking" about doing things, we have been pretty busy with "real" accomplishments. Are you enjoying your new General Class SSTV privleges on 14.230 Mhz. and other HF bands? Were you glad to see the new FCC ruling on "video only" ID's on FSTV? Have you made your first FAX HF frequency contact or checked into the UNITED STATES FAX NET on Sunday afternoons? Did you enjoy the "live" color FSTV pictures of Owen Garriots STS-9 Mission from METROVISION or relayed HI-RES SSTV pictures transmitted by WØLMD in November? Did you work SSTV's only Amateur Radio WORKED ALL STATES Contest in January making a few new friends in the process? Were you helped in saving money or found that hard to locate information from our "A5" MEMBERSHIP SERVICES Department? Are you enjoying this year's informative ATV forums and combined SSTV meetings at Dayton without having to drive halfway across town? If the answer is "yes" to any of the above questions, you have "A5" and the members of the USATVS to thank for it. No, we won't be holding any phony cosmetic meetings or giving out well intentioned awards for a publicity stunt, we'll just quietly continue doing our actual work as we have been for the last 17 years. If you have time, stop by our Dayton booth #279 and say hello. You just might like what you see...

We have a jam packed 48 pages for you! World News, Letters to the Editor, our Charlotte Hamfest trip report, ATV Computer plot, ARR's new RF switchable preamps, EIMAC's new 3CX800A7 UHF tube, WD4ABZ-TV, a progress report on that new MITSUBISHI video printer, an ATV/Cable-TV idea, PC's latest catalog of goodies, a new advertiser (RAMSEY), lots of FAX information including off the air pictures and our first FAX FREQUENCY OPERATING GUIDE, SSTV for our spanish speaking friends, our regular W2WHK SSTV Column, K6AEP/WB8DQT/WB8RTM activities, and our usual FREE CLASSIFIED ADS! Enjoy & 73's -WBØQCD

INTERNATIONAL
AMATEUR TELEVISION MAGAZINE

News Roundup

FAX QSY

The frequency of the "newly organized" UNITED STATES FACSIMILE (FAX) NET is being changed. The Net started on Sunday, February 5th and has been conducted weekly on 14.240 Mhz. at 3 p.m. EST. The world's largest organized FAX Society Japan Amateur Facsimile Association (JAFA) operates at 14.245 Mhz. as does many other foreign DX countries. Additionally, the slightly higher frequency seems to be a bit more clear during heavy use periods on weekends and would allow a bit more room for SSTV operation since many of the HI-RES SSTV'ers appear to be operating between 14.235-14.240 Mhz. Keeping in the true spirit of INTERNATIONAL COOPERATION, effective April 1st, the new U.S. FAX NET operating and suggested FAX operation CQ-QSO frequency will be 14.245 Mhz.

History Made!

THE FIRST KNOWN TRANSATLANTIC (U.S. to Europe) TWO-WAY FAX PICTURE EXCHANGE CONTACT was completed on Monday, March 5th, 1984 (as a result of the U.S. FAX NET) between Warren Ziegler KI1E of Staten Island, New York and Jean Engel LX1JE of Bissen, Luxembourg! Several LX DX stations checked into the March 4th U.S. FAX NET in which KI1E was Net Control and established a schedule for the following morning. Other DX "FAX" operators monitored or reported exchanging FAX pictures are WA9HCZ in Onalaska, Wisconsin (28.690), KH6JDU in Hawaii (14.245), DJ8BT (14.240), DU1GF (14.245/21.345), F9UH (21.340), LX1MN (21.350), LX1LE (14.240), VK2ABH/VK2AHB & VK2AHP (14.245/21.345). Send your FAX-DX reports to "A5"!

New Type TV Experimentation

The U.S. Navy is reported to be completing successful experiments with a newly developed 56 KHZ. high-quality Fast Scan Television mode that uses Digital TV techniques. The main advantage of this experimental development is more control over the picture content and transmission over lower VHF/UHF frequencies due to a much narrow bandwdith requirement versus regular standard NTSC commercial television. The first test transmitters and receivers were produced at a cost of $50,000.00each. Such a developed mode if FCC approved, could be experimented with in the 220 and 420 Mhz. Amateur bands. This subject will be discussed this year at the Dayton Hamvention Saturday afternoon ATV forum.

First Stereo TV in U.S.A.

WTTW-TV in Chicago became the first TV station in the nation to offer under special experimental authorization from the FCC-Stereo sound with its' video pictures. Few are listening to this new feature as a special decoder box must be used in the viewers home. Stereo TV is popular in Japan and Germany and is expected to grow in interest here in the U.S.A.

ATV QRM Removed...

Amateur Fast Scan TV operators in California have successfully forced removal of 8 Navigational Services, Inc. transmitters that have been interferring with ATV communications in the Southern California area. Interference was plotted and traced then reported to the local FCC office for action. The NSI transmitters were operating in the 433-437 Mhz. range areas and are secondary to the Amateur Radio Service on a non-interferring basis. A complete description of this happening was published in the "A5" March Volume 14 #3 issue.

Russian Satellite

USATVS Member Dr. John Fox, M.D. WB2LLB/4 of Mobile, Alabama has requested information from the NASA Goddard Space Flight Center located in Greenbelt, Maryland for the tracking data on the Russian TVRO Satellite 'Molniya USSR' at 38-42N; 88-3W degrees. "Molniya" transmits INTER ALIA Russian Home TV service in the French based SECAM Color system using right handed circular polarization on the 3.7-4.2 Ghz. downlink. Dr. Fox intends on attempting to record the SECAM transmissions for personal use pointing out that he is probably the only American Amateur Radio operator set up for multi-mode NTSC-PAL-SECAM filming and recording. It is his understanding that a nearby NASA facility in Mississippi not far from Mobile, Ala. already monitors this satellite.

More SSTV To Come!

ROBOT RESEARCH, INC. of San Diego, California is expected to officially release their long awaited MODEL 1280C HIGH-RESOLUTION COLOR SSTV Converter this year at Dayton. Priced in the $1300 category, it is expected to be a "top of the line" Amateur SSTV product. Some "paid" customers have been waiting since April 1983 for the new units. The 1983 introduced MODEL 450C has not sold as well as expected most likely due to the ever changing and as yet undetermined standards for Color SSTV transmissions. San Mormino WA7WOD is rumored to be coming out with a modification for Color SSTV conversion of the MICROCRAFT VIDEOSCAN 1000 units manufactured and designed by WB9LVI in Wisconsin. Several new Color and HI-RES FSTV/SSTV/FAX systems will be unveiled this year at Dayton which should make for even a more interesting (and confusing) 2nd half of 1984.

"A5" IS THE OFFICIAL JOURNAL OF THE UNITED STATES ATV SOCIETY!

COMMENTARY

P.O. BOX H. LOWDEN, IOWA 52255

All correspondence addressd to this column, must be signed with full address information. Requested "Unsigned" comments must be made in writing to the Publisher with all letters recieved being held on file for public inspection for a period of one year. We try to answer all mail on a first come, first serve basis. -WBOQCD Editor/Publisher

Medical SSTV

"My interests lie mostly in Slow-Scan Television via Telephone lines. My corporation has two MICROCRAFT SSTV Converters from WB9LVI in Thiensville, Wisconsin that we use for Radiology Medical applications. I would like to hear from others using SSTV in the field of Medicine. I found an old copy of "A5" at a hamfest in Madison, Wisconsin one year and that is how it all got started!" -Dick Lindgren WD9BFV, 6006 Green Tree, Madison, Wisconsin 53711.

TVRO Enthusiast

"Enclosed is $10.00 for 6 months of the USATVS Journal. My special interest is in "homebrew" TVRO Satelitte TV reception. Looking forward to the April issue!" -Eugene M. Dudrewicz, 11795 Plumbrook, Sterling Heights, Michigan 48077. EDITOR; Eugene, I am sending you a copy of Ralph Wilson's (ESF COPY SERVICE) booklet #107 TVRO AND TELEVISION, a complete reprint series of Gerard Wilson's (WA6RDA) 17 part series on Space Satellite Reception that was run in past issues of "A5". It is just what you are looking for! 73's -QCD.

Suitable For Framing!

TO THE UNITED STATES ATV SOCIETY; "Dear Mike; I just wanted to thank you and "A5" for an extremely interesting periodical to which I owe much toward stimulating my interest in Amateur Radio. When I first inquired for a sample issue, I had no license. Much of the technical content was foreign to me but something about the attitude with which it was presented intrigued me to learn all I could. I found that the most efficient was to learn was to study for my Amateur ticket. I guess my drive was high, as I obtained my General in May 83, my Advanced in June 83 and my Extra Class FCC Amateur Radio license in July of 83! Thanks and keep up the good work." -Dr. Gary S. Kots KQ3N, 3826 West Lake Road, Erie, Pennsylvannia 16505. EDITOR; Thanks Gary, a letter like yours makes all the effort worth it! -QCD

You Can't Please All The People...

"Dear "A5"; Each issue, you have been printing the "A5 SHACK OF THE MONTH". These shacks are unbelievably neatly arranged and look like NASA Space Consoles. How about publishing some "real" shack pictures like mine-full of wires and tools strung out all over the place and diassorted in an unorganized manner? Maybe you can start a new "A5 LOUSY SHACK OF THE MONTH" section? We homebrewers and tinker'ers demand EQUAL TIME!" -Ed Draughn WA4KMG. EDITOR; You got it Ed, send your picture and we will start off with yours, the "worse" the better! -QCD

Extra Charges...

"Recently, I purchased a PANASONIC CT-1112 Color TV/Monitor from the USATVS Buying Service. You stated in the March issue that we could obtain the service manual for the sane for $1.50 plus 2.00 shipping totalling $3.50. Upon ordering the manual however, I was charged $2.00 for the manual, $3.00 shipping and a $3.00 minimum order charge totaling $8.00! Quite an increase from the advertised price. I am sure you will get "flack" from other owners of this equipment. I would not have ordered the service manual had I known that price! I am afraid that PANASONIC has lost a customer!!!" -John A. Smith Jr., 7331 Claridge Street, Philadelphia, Pennsyvannia 19111.

EDITOR; John; Sorry you were charged higher prices than others. I was charged the advertised rates. I called two others that I know who ordered the manuals and they were charged the lower rates also. Has anyone else out there in "A5" land been charged the higher rates that John has? Write to us and let us know-we will write PANASONIC for you. Frankly John, I think you are a little tight with your money? That manual is a very thick one and with large easy to read, fold-out schematic diagrams. An $8.00 manual doesn't seem to high for me on a $419.00 retail TV. YAESU Service manuals cost $25.00 plus shipping. You will find its real worth if you ever have a problem with the TV and need to take it to someone for servicing. The first thing the repairman will ask is if you have a manual? 73's and will let you know how this sitiuation cones out. -QCD

"Breakfast" HF SSTV Net!

"We have an 80 Meter SSTV Net on every morning about 6:30 am till 8:00 am. on 3845 KC. We would like to see this mntioned in "A5 MAGAZINE!" -Elmer Buyer W3YAH, RD #1 P.O. Box E 132C, Lewes, Deleware 19958.

From The West Indies

"Thanks for the sample issue of "A5" that you sent me. I an not yet into ATV or SSTV, but do have interest in SSTV and FAX and would like to try a one-year subscription to the USATVS Journal. Enclosed is $26.00 U.S. to cover a subscription and orders for back issues. Also please send information on your Computer and Membership Service programs." -John L. Webster 9Y4JW, Dept. of Soil Science, St. Augustine, TRINIDAD, West Indies.

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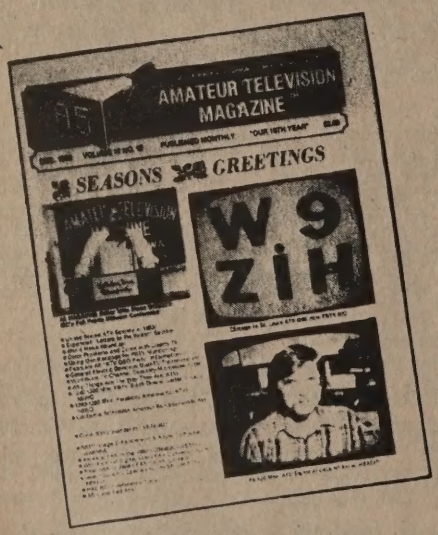

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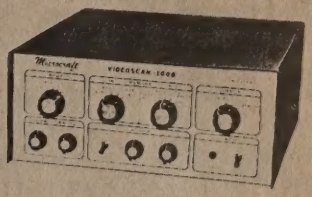

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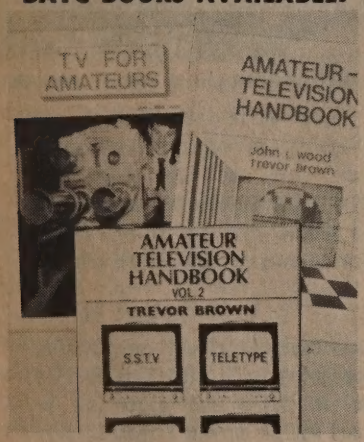
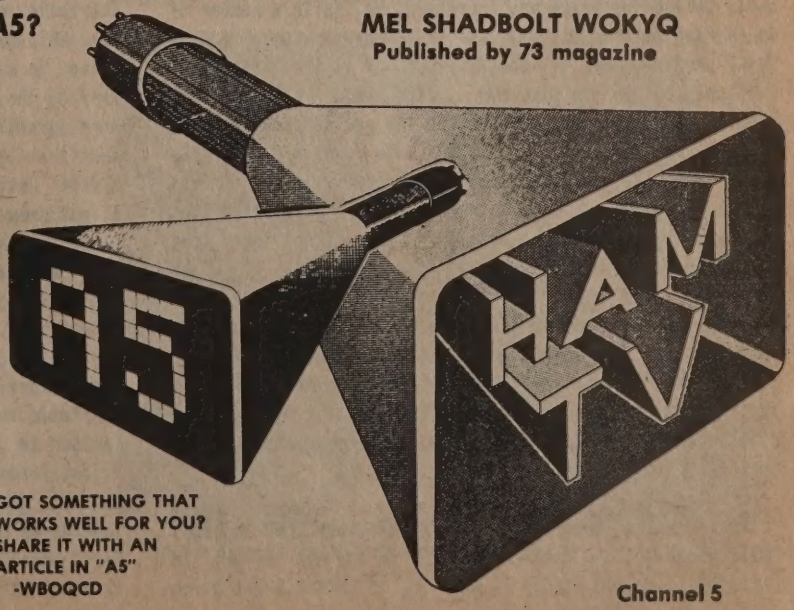


Our January issue of "A5" mentioned on Channel 1, the exchange of book materials between the USATVS and the BATC (British Amateur Television Club). The first books were sent overseas to the BATC and were received in good shape. The BATC countered with a similar exchange and they arrive in excellent condition on March 28th. Both sides levied expensive mailing and customs costs which are included in the retail selling prices. Three BATC books are available; AMATEUR TV HANDBOOK #1 by John Wood and Trevor Brown (1981) 96 pages loaded with FSTV goodies from Antennas to Video Switchers (17 chapters); AMATEUR TV HANDBOOK #2 by Trevor Brown (1982) 97 pages (5 Chapters) covering SSTV, RTTY, VIDEO EFFECTS, 70 cm ATV and MICROWAVE TV; and TV FOR AMATEURS by John Wood (March 1983) 52 pages on FSTV covering the BASICS, the ATV Station, Receiving, Transmitting, Color, 1.3 Ghz. TV and lots more! Handbooks #1 and #2 are $7.50 each, TV FOR AMATEURS is $6.50. Order all 3 books for $19.00. Please include $1.00 for postage/handling (Mailed Special 4th Class Book Rate). A very limited number of copies are available, so order early. First come, first serve! Sorry, USATVS Members only!

WHERE DID THE "A5" PICTURE TUBE COME FROM? WAS THERE LIFE BEFORE A5?

Every once in awhile, someone writes to us asking "Where did the longtime historical A5 PICTURE TUBE SYMBOL come from?" It was interesting to meet Gerald Cromer N4NHM recently on the Charlotte Hamfest trip who has been a long time subscriber to "A5" but had some early copies of "THE ATV EXPERIMENTER" as well. ATV EXPERIMENTER was published in the early 1960's by longtime and still active ATV'er Mel Shadbolt W0KYQ of Nebraska. Mel, still to this day, supports the later to come "A5" publication with his ads which can be seen on every back cover. W0KYQ was featured in a short article in "A5" not long ago completing over 20 YEARS OF ATV! If your interested in obtaining some of these old issues to look at or add to your collection (copies), contact Ralph Wilson of WB0ESF COPY SERVICE (See A5 Ad).

"ATV EXPERIMENTER"
MEL SHADBOLT WOKYQ
Published by 73 magazine



GOT SOMETHING THAT WORKS WELL FOR YOU? SHARE IT WITH AN ARTICLE IN "A5"
-WBOQCD

MECKLENBURG AMATEUR RADIO SOCIETY, INC.

"A5" VISITS THE 1984 CHARLOTTE HAMFEST & COMPUTER FAIR

Our trip to 1984 CHARLOTTE HAMFEST got started with a side trip to visit ATV'ers in the Columbia/Sumter area. We were scheduled to board Mississippi Valley Airlines (MVA) in Moline, Illinois for a semi-direct route to Columbia, North Carolina via Chicago's O'HARE field. We checked in at the main ticket counter of MVA, checked some pretty heavy bags (full of A5's and books) and was directed down to the loading gate. Upon arriving at the boarding area, there was quite a line of passengers angry at a P.A. announced delay in departure due to an Air Controller problem. My first thought was to call the Whitehouse and tell Ronald that the Air Controllers were after more money again. As I approached my turn at the ticket agent, I was informed that the scheduled planes radar was not working properly (it was foggy that morning) and that another plane was being brought over for service. This new plane, however, had about 20 less seats than the one that was suppose to have broke down making those lucky few towards the end of the line (even though we booked a month ahead) unable to board the aircraft. The agent recommended that we all hurry to OZARK on the other side of the airport as they had a flight just leaving for St. Louis, Missouri and that we just might be able to catch it. You can imagine a group movement of passengers, angry at MVA, wondering if they would make their connections in Chicago and all starting to walk with every step a bit faster to outrun the others who might keep them from getting aboard the OZARK flight.

After a long walk back passed the MVA main counter and over to OZARK's ticket area, we were all informed that OZARK could not process the MVA issued tickets as they were, unless the price was increased. So, quite a number of us started back to the original MVA counter once again. Upon arrival, we all badgered our way to the head of the line only to see the same MVA ticket agent handling new tickets for Chicago and sending the new passengers right down to the same boarding area where we were told that the plane was filled (OVERBOOKED is a probably a more correct term). "Don't you guys TALK to each other?" I cried out loudly, "Did you say Good Morning to your ticket taker down at the boarding gate who appears to know more of whats going on than you do?" I continued. They reworked our tickets making a yet 3rd false claim that the flight crew had got in last night and did not get enought sleep and that was real reason for the delay. "Come on you guys, why don't you just admit to "overbooking" and quit with all the phony excuses, eh?" One customer was demanding $100 or a free ticket but didn't get anywhere.

The question then popped into my mind about my baggage. "What about my bags that are already on the MVA flight to Chicago?", I asked. "They'll meet you in Columbia-get going

Hap Griffin WA4UMU, Gerald Cromer N4NHN & Charlie Hudson WD4ABZ

the agent exclaimed!" I stayed while others took off content with having their bags routed God only knows where and demanded my bags be taken off the MVA flight and transferred aboard the OZARK flight. I actually held up the OZARK flight because of this and was the last to board the plane for St. Louis after seeing my six bags placed onboard the OZARK flight.

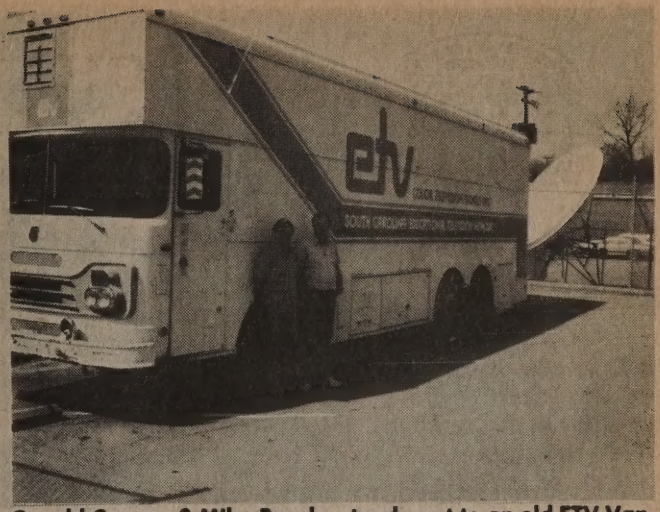
The flight now to St. Louis took off almost immediately. It is ironic that I ended up going to St. Louis as that is really what I wanted to do in the first place as we intended to visit WB0UNB and WB0ZJP during a long layover period. MVA told me that there was no way to get to Charlotte or Columbia from St. Louis without going back thru Chicago again. I then began to wonder how OZARK was going to manage it? While checking on that, I noticed that many of the passengers already onboard the OZARK flight were upset. Inquiring to the lady next to me she stated that the flight was suppose to leave around 7 am. and didn't until 9:30. "What was the delay?", I asked. "The flight crew didn't get enough sleep", she replied. I just shook my head in disbelief. We arrived at St. Louis and hurridly rushed across the airport in 20 minutes to board a Delta flight to Atlanta, Georgia (which connected to Columbia, N.C.). While at the ticket checkin area, I asked the attendant if he would ask his computer terminal what was the difference in cost between flying from Moline to Charlotte and Moline to Columbia (Columbia is 80 miles further to the south). The Delta agent replied that the flight from Moline to Charlotte was $231.00. The flight to Columbia was $300.00. I had the agent double check these figures as my purchased ticket was $378.00 to Columbia. The Delta agent verified the figures and said that I would have to take that up with the MVA originating agent.

We flew on to Atlanta, Georgia on a very enjoyable flight aboard Delta. While at 33,000 feet, I was looking over my issued ticket from MVA on the price discrepancy and also notice that my connecting flight on to Columbia, N.C. was at 12:55 pm. My watched now said 1:28 (EST) which meant somehow I had missed the flight to Columbia. It didn't take too long to figure out that the issuing agent at MVA must have missed the training course on Eastern versus Central Time Zones. I had the ticket once again changed at a beautiful Atlanta airport and was to catch a later flight to Columbia. I enjoyed the Atlanta airport immensely and encourage anyone traveling thru that airport to take the escalator and train shuttles. My lunch meal was excellent and settled what had been so far a very frustrating trip.

We left Atlanta on time and finally arrived at Columbia, N.C. to be greeted by Hap Griffin, Gerald Croner, Mike Brooks and Tom Dubois. We started to walk down the concourse to the baggage area when I suddenly realized that through all the confusion, I had left my carry-on garnet bag on board the aircraft. No sooner had I turned around to go get it and a Delta Pilot handed it to me still in the lobby. "True Southern Hospitality", I exclained in thanks! To temporarily end this saga of misfortune (notice I said tenporairly), we all awaited my baggage only to find out that none of the six bags made it with me. Off we went, trying to keep a smiling face, to the Lost baggage Claim office. (Maybe they got routed to Chicago?).

Eager for a taste of good Southern food, the Columbia ATV Group took me to one of their favorite "greasy spoons" for dinner. While chowing down on some delicious barbecue ribs and fried chicken, I told of my horrid flight story events that eventually got me to Columbia. By now, the frustration of it all had started to wear off and it began quite an amusing tale. A special ATV Meeting had been called at the local Red Cross Center for us to meet the local Club members and we talked and showed some videotapes of FSTV activity back in Iowa and Illinois. They countered with videotapes of their own of what achievements they had accomplished in a period of about a year and a half. The meeting ran long but very enjoyable. We took a side trip to Jim Walter's QTH (KB4FF) for some actual on-the-air South Carolina FSTV'ing! We saw some great ATV pictures from many of the local gang including a "double" qualification entry to the prestigious "A5 MOONER'S CLUB! We wouldn't want to "reveal" just who "bared all facts" in this video application process, but if you happen to stop by the QTH's of WA4UMU or N4JUR-you might ask them to show you there newly awarded green certificates...

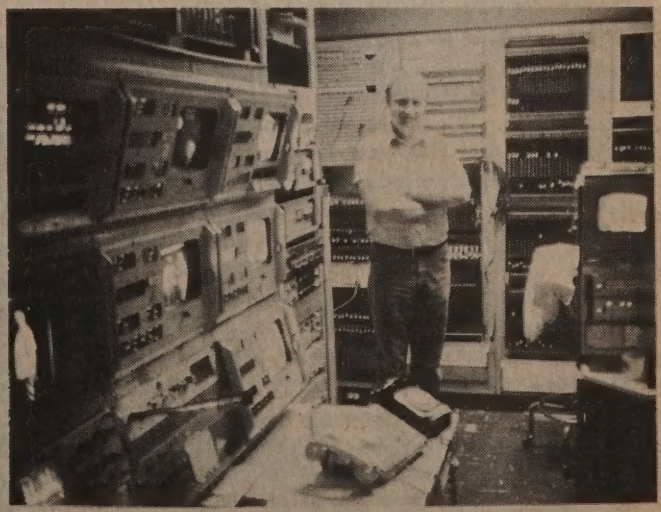
We went home with Doug Weldon K4LNU and accepted the hospitality of his wife and family and lovely modern home. Doug has quite a nice "ATV Shack" located in an enclosed room in the garage area. After a hearty breakfast in the morning, we were picked up by Mike Brooks and Gerald Croner and began a tour of their employer ETV of SOUTH CAROLINA. ETV stands for EDUCATIONAL TELEVISION and is the state supportted PBS facility. ETV Controls at least 10 other Microwave fed TV stations throughout the state including



Gerald Cromer & Mike Brooks stand next to an old ETV Van

WITV Channel 7 Charleston, WEBA-TV Channel 14 Allendale, WJWJ-TV Channel 16 Beaufort, WHMC-TV Channel 23 Conway, WRJA-TV Channel 27 Sumter, WNTV-TV Channel 29 Greenville, WNSC-TV Channel 30 Rock Hill, WJPM-TV Channel 33 Florence, WRLK-TV Channel 35 Columbia and WRET-TV Channel 49 Spartanburg. They provide instructional programs for elementary and high school students and teachers on weekdays also showing a variety of Public Broadcasting programs in the evening. On open and closed circuits, ETV broadcasts over 192 different programs daily. We got the royal tour with Mike Brooks showing us the Main Control Center and Computer Control facilities and Gerald Croner showing us the Microwave Relays link feeds. They also have 3 large studio areas, one of which was presently in use for the annual PBS fund drive telethons. I was very inpressed to say the least!

After another long, but enjoyable day in South Carolina, we drove down to Hap Griffin's QTH (WA4UMU Griffin Enterprises Ad) only to be dazzled with a Gerald Croner marinated outside grilled "steaks" dinner topped off by a special ice-cream cake that read "Welcome A5 Magazine!".



Mike Brooks N4JUR Shows "A5" Master Control at ETV Channel 7

Hap Griffin WA4UMU at his Sumter ATV Shack

How's that for Southern hospitality? Down South, they really appreciate "YanKee" beer as "COORS" was the flavor of the night. The party broke up at a decent hour (11 pm.) as we all had to get up early on Saturday to drive up to the CHARLOTTE HAMFEST. Mike Brooks N4JUR transmitted FSTV to WA4UMU with a P3 steady picture just before retiring. 3 A.M. came pretty early as we were on the road by about 4:00 A.M. for the 80 mile drive to CHARLOTTE. Hap and I had just enough gear room left over for his lovely XYL to fit in cross ways in the back seat for the entire trip for which she graciously never uttered a word of discontent. We received quite a TV Video Theory Course on the way up to CHARLOTTE as the sun rose from the east asking Hap alot of little questions that we couldn't seem to get answers to back home.

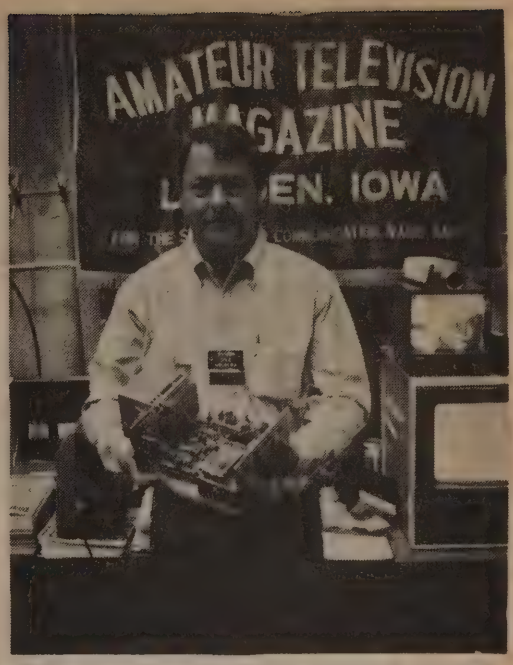
Around 7:30 am. we arrived in the beautiful city of CHARLOTTE, N.C. only to be greeted by A5/USATVS Members Charlie Hudson WD4ABZ and Hamfest Coordinator Howard Cochran W4PPN. We quickly set up our "A5" booth and were ready for "business" by the time the doors opened at 9 am. There was a good crowd both days (Saturday and Sunday) with an estimated number of 6,000. The HAMFEST was professionally run by members of the MECKLENBURG AMATEUR RADIO SOCIETY, INC. and is one of the best Hamventions in the South. The only flaw I saw was more time needed for our ATV Forum on Saturday as a hour long presentation went by rather quickly. We saw alot of SSTV'ers also present meeting for the first time in person KC4FM and WA4QAA which was a real pleasure. The Shelby, North Carolina ATV Group was there in full force having a booth of their own. The Shelby Group was pushing for being the sponsor of our "A5" Fall ATV Conference. Dr. John Fox WB2LLB/4 from Mobile, Alabama help us with the ATV Forum telling briefly about INTERNATIONAL ATV VIDEO EXCHANGES. It was comical Saturday evening at dinner with John at the Sheraton Hotel as he showed us his new SONY TV wrist-watch trying to figure out if it would tune down to 439.25 directly or how to carry around a small downconverter unit so to receive ATV from somebody's P.C. Kreepie Peepie!

The temperature in North and South Carolina was in the 70's with Spring in the air and the Cherry trees begining to blooson. Joggers were running around shirtless (just the males of course) which was quite a difference from our departed northern weather. It was great renewing acquantences with many of the Ham Dealers and Manufacturers including seeing Alan Dorhoffer from CQ, Jim Gray from 73, Rally Dennis of Ham Radio, Chet Lambert of Computer Trader, and Ed Cox from VicCOMM. The "A5" ATV HOMEBREW Award went to WD4BDX from Shelby who made the best looking homebrew FSTV transceiver I have seen in a long time. Charlie Hudson videotape the entire HAMFEST with Dr. John Fox tapinng in "PAL" most of the forum lectures for the overseas international exchange enthusiasts. We should have a two hour program available soon on the 1984 Charlotte HAMFEST in our "A5/USATVS" Video Library. Speaking of Charlie Hudson, anyone that knows him at all will agree that he is one of the original "good ole boys" reared from the southland in his rather loud, voicetrous and helpful manner. He wasn't smiling Sunday morning when I arrived at our "A5" booth as he told me that someone had "ripped him of" of his SILVERNAIL ATV Transceiver the night before. While I listened patiently to his tale of woe, he watched me slowly go over to one of my briefcases only to pull out his SE1a rig that I had stored away the night before so just such a thing would not happen (I take care of you too, Charlie!).

Well, if you are still with us folks, this wild long weekend ended with a comfortable trip home-this time from CHARLOTTE direct to CHICAGO only to be whizzed home in a blinding snow storm on a small BRITT "puddle jumper" after a tour of O'HARE field by mini-bus no less. We arrived back in Moline, Illinois around 10:30 pm only to walk within about 20 feet of WALTER MONDALE, alot of campaign aides, reporters and onlookers. He didn't recognize me from "A5" but I did tell him that "Ronny" said hello! I proceeded to the baggage area to get my luggage after greeting Rose and the kids hello only to find that one of my bags didn't make it again. The attendant mentioned something in passing that they might have been sent on to St. Louis... -QCD

Hap, Ike Johnson and Gerald at WRJA-TV&FM, Sumter, S.C.

Mike Brooks mans camera 1 on Gerald Cromer who has to read from cue cards



"A5" ATV Homebrew Winner Dale WA4BDX, Shelby, N.C.

Introducing The New

PROC-AMP 1

From

GRIFFIN ENTERPRISES

Are you plagued by Sync Compression in your FSTV system? Would you like to do fancy video fadeouts without loss of sync lock? Would you like complete control of the video levels in your VTR or TVRO setup? The new 'PROC-AMP 1' is designed to give you independent control of the video and sync levels with any FSTV, TVRO or video production system and can be installed into existing equipment as well as built into a free standing unit. Requires standard composite video input and 12-15 vdc @ 50 ma.

Board and Parts Kit $25.00
Assembled and Tested Board $35.00

Add $1.00 Shipping and Handling for each board.
S.C. Residents add 4% Sales Tax

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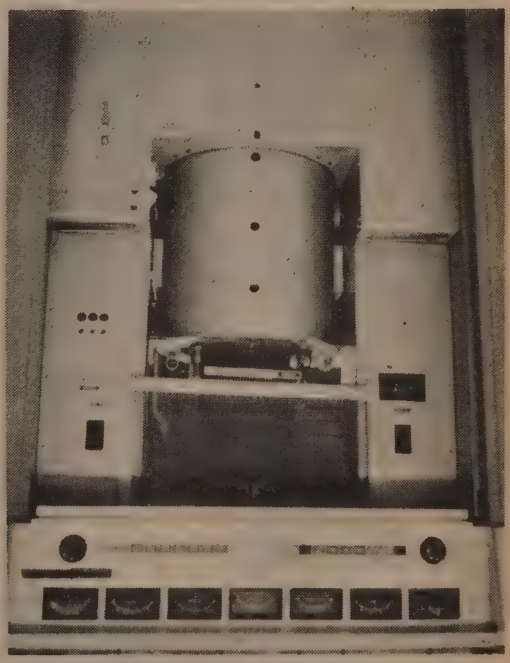


2 Watts/20 KW Out $34,000.00 Klystron Tube

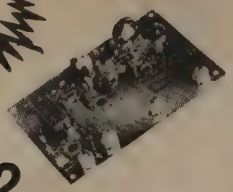
"DO YOU HAVE SOMETHING THAT WOULD BE OF INTEREST TO OTHER A5/USATVS MEMBERS? SHARE IT WITH AN ARTICLE IN A5 ATV MAGAZINE!"

A5

SERVING AMATEUR RADIO-TV ENTHUSIASTS WORLDWIDE FOR OVER 17 YEARS!

Turn a few hours work into years of fun with Amateur Television.

NEW



ATV-2

$59.95

ATV Converter*

The new ATV-2 converter has two super sensitive RF Pre-amplifier stages using the low noise MRF-901 (1.7 dB NF) transistors. The ATV-2 tunes from 420-450 MHz and down converts to channels 2, 3, or 4 on your standard TV set. The circuit uses durable microstrip design for stability and simplicity. The combination of a dual RF stage, the microstrip design, and the hot-carrier diode double-balanced mixer reduces UHF TV intermod problems. The local oscillator is varactor controlled for ease of tuning. An additional feature not found on other ATV downconverters is the incorporation of a post amplifier stage (6 dB min gain) following the double-balanced mixer. This post amplifier stage is used to overcome the conversion loss of the mixer. The Post-amplifier also delivers a signal level that is acceptable to the TV set to overcome the TV set's sensitivity threshold. The addition of the Post-amplifier circuitry is most noticeable on every weak signal reception. Overall the Communication Concepts ATV-2 downconverter is just what you need to enjoy amateur television to the fullest extent.

ATV CONVERTER:

ATV-2-Wired and Tested..... $59.95 each
ATV-2-Pk Partial Kit..... $44.95 each
ATV-2-PCB Printed Circuit Bd only..... $10.00 each
ATV-2-I Instruction Manual Only..... $5.00 each

Specifications

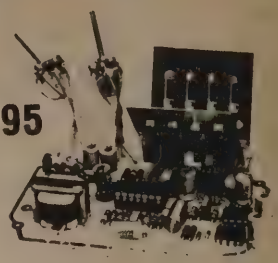
RF Input.....420-450 MHz
RF Output.....Channels 2, 3, or 4
DC Input.....+12 Vdc at 50 ma
RF Stages.....2 (MRF-901)
LO.....Varactor Tuned
Fine Tuning Range.....
.....Approx. 30 MHz
Pre IF Stage Gain.6 dB Minimum

Audio Squelch Control

You have a squelch on your 2 meter equipment; why not add a squelch to your ATV monitor. Now you can avoid the major problem of operating ATV—the annoying hiss and static when the signal is not present. With the ATV squelch, you no longer have to turn the volume down when the signal disappears and risk the chance of missing a signal.

The squelch easily connects to the TV receiver audio stage without modification of the TV, since the squelch circuit contains its own audio output stage. You must provide your own speaker. Operator safety is provided by using transformer isolation between the receiver and the squelch circuit, thus eliminating the shock hazard when using a "hot chassis" type TV receiver.

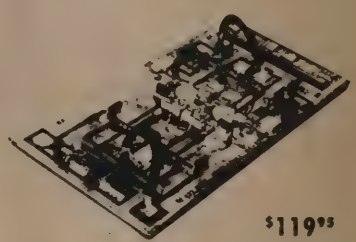
$34.95



SIL-K Complete Kit—includes a detailed instruction manual, printed circuit board and all electrical components. Kit does not include case, speaker and regulated power supply (10 to 15 volts @ 250mA).
SIL-PCB Printed circuit board only **$10.00**

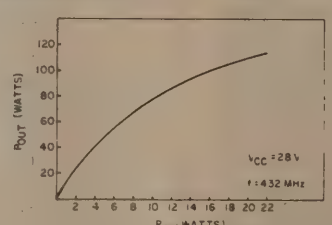
100 Watt Linear Amplifier

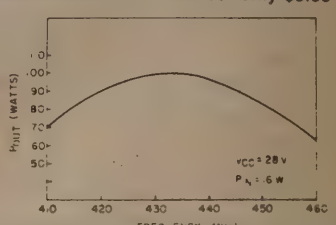
Now you can get on the air with a high power 100 watt class B linear amplifier for SSB-FM or ATV on the 420 to 450 MHz band and still not spend a lot. This kit is described in Motorola engineering bulletin EB-67 and is available in a number of configurations. For full output, a minimum of 16 watts is required for excitation with an input SWR of not higher than 2:1. Output will maintain stability with a 3:1 collector mismatch at all phase angles. A designed-in low-pass filter suppresses the 2nd harmonic to at least 63 dB down. An external power supply capable of providing 28 VDC, regulated, at 10 amps is also required.



$119.95

KEB-67-PK Kit includes detailed step-by-step instructions, printed circuit board, and all electronic components as shown.
KEB-67-PCB Printed circuit board only **$14.00**
KEB-67-I Instruction manual only **$5.00**





P.C. Boards

The FCC does not allow us to sell Broadband RF amplifier kits in the HF range, therefore we can only offer the printed circuit board and parts on a piece-by-piece basis.

140 watt power amplifier as described in Motorola engineering bulletin EB-63. **EB-63-PCB**

100-180 watt power amplifier as described in Motorola application note, AN-762. **AN-762 PCB**

300 watt power amplifier as described in Motorola engineering bulletin EB-27A. **EB-27A PCB**

Transformers, transistors and other parts are also available.

We also specialize in hard-to-find components.

In addition to our kits, we also stock parts for other Motorola application notes and engineering bulletins. We have an in-depth stock of Motorola VHF and UHF transistors, Underwood metal clad mica capacitors (Unelco), Kemet chip capacitors, Cambion RF chokes and Ferroxcube Ferrite beads and RF chokes plus other difficult to find parts. If you are having trouble finding a part, call us, we probably have it in stock.

"WE SUPPORT AMATEUR TELEVISION, USATVS AND A5 MAGAZINE!"

Communication Concepts Inc.

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ATV COMPUTER PROPAGATION PLOT

"Don't believe everything you read..."

by WBOQCD

Our recent trip to visit ATV'ers in North and South Carolina produced a number of interesting article ideas for "A5". Here's one of them in short description detail.

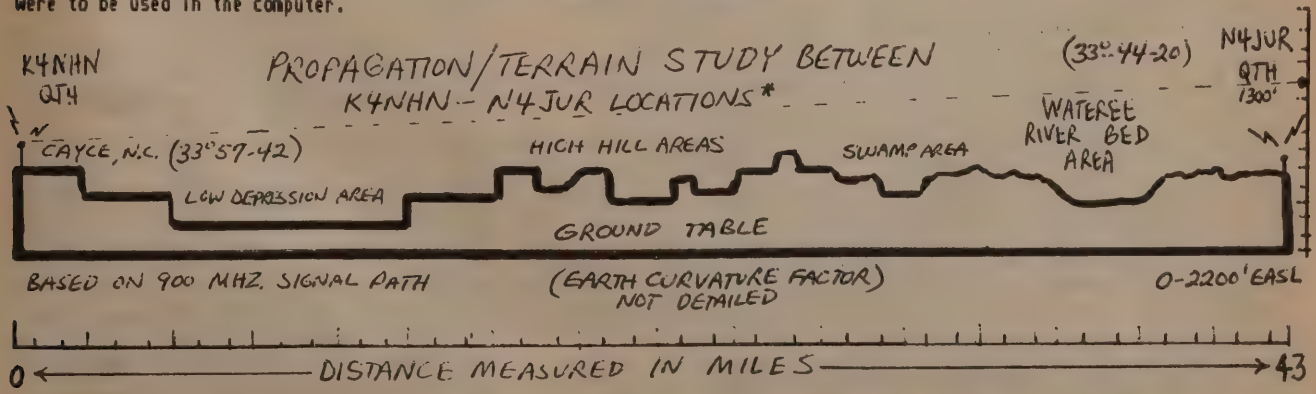
Mr. Charlie Bowers runs the SOUTH CAROLINA ETV Facility headquartered in Columbia, S.C. He recently put an expensive Company PDP-1144 DIGITAL GROUP COMPUTER to work on some UHF/MICROWAVE "Line of Sight" Topigraphical Mapping charts which is used as a reliable "propagation" tool when surveying the locations of linking TV Microwave towers and remote transmitters. This particular plot however, was not for a 1000 Foot Channel 23 tower link for Conway, or a 1,500 Foot tower for Channel 35 in Columbia, or even a Channel 49 link location at Spartanburg-it was for an AMATEUR TV (ATV) study of propagational terrain between fellow co-worker employees Gerald Cromer K4NHN in Cayce, S.C. and Mike Brooks N4JUR located near Sumter, S.C. The distance between these two ATV'ers was calculated at 43 miles. Gerald and Mike work FSTV every evening on 439.25 Mhz. any where from Below P-1 to P3 copy on good evenings. Both have moderate antenna systems but do employ around 100 watts of power with proper hardline feed systems.

The fancy DIGITAL GROUP Computer was fed the following information: K4NHN-Latitude 33-57-42, Longitude 81-03-28, Northing 37-57-712, Easting 4-94-611, Tower Height (Antenna) 70', Fresnell .6 Mile, Frequency 950Mhz. N4JUR-Latitude 33-44-20, Longtide 80-21-30, Northing 37-33-196, Easting 5-59-439, Tower Height (Antenna) 30', Frequency 950Mhz. The DIGITAL GROUP Computer has a program, written by Mr. Bowers, that established the exact lay-of-the-land (including tree level and structures) for most of the South Carolina area. The plot is shown below (redrawn sketch) which established a distance path between K4NHN and N4JUR. 950Mhz. was used as it as the lowest frequency available to the 439Mhz. ATV band. Results would of course be more favorable if an actual 439Mhz. program were to be used in the computer.

The final result of this unique computerized distance/propagation plot was that N4JUR would have to install a 1300 Foot tower/antenna location to "see" K4NHN's ATV Signal "line-of-sight". Of course, N4JUR does not intend to invest $145.00 a section for a 1300 foot tower to obtain P5 pictures. He will rely on good low-loss feed lines, proper connectors, more high power and enhanced band conditions.

The interesting point in my observation of this "plot", is not what is shows must be done (1300') to accomplish "line-of-sight" TV communications, but that it is amazing that K4NHN and N4JUR are "seeing" each other at all! It just goes to show, that persistance pays off in UHF communications, and that just because you are miles away from your friend's Qth with alot of obstructions in between, you shouldn't give up before giving it a fair try. Even the vast swamp land near the WATEREE Riverbed (6 miles across) still let some of the FSTV signals reach its destination. From what I saw of moderate antenna systems at both stations and a relatively low tower height at the N4JUR Qth location, I know that Gerald and Mike still have the capability of obtaining P4-P5 pictures, color and sound if they keep at it and ignore what most would say is an impossible RF task.

You may have available such a computer type printout capability in your own local area. Contact head engineers at local TV stations, FM Radio Stations, State Police and Maintenance facilities as well as Telephone and Cable-TV Systems. They use the "plots" in everyday situations or hire outside contractors to do such studies. If there is a Microwave Tower installation nearby your location, chances are a computerized plot is already sitting in someone's file drawer. There are also some "home computer" basic programs floating around that give basic mathematical readings without a graphic land printout. "A5" has requested more information on the program used in the Charlie Bowers DIGITAL GROUP program. Maybe we will have more to report to you on this in a future issue. 73's WB0QCD



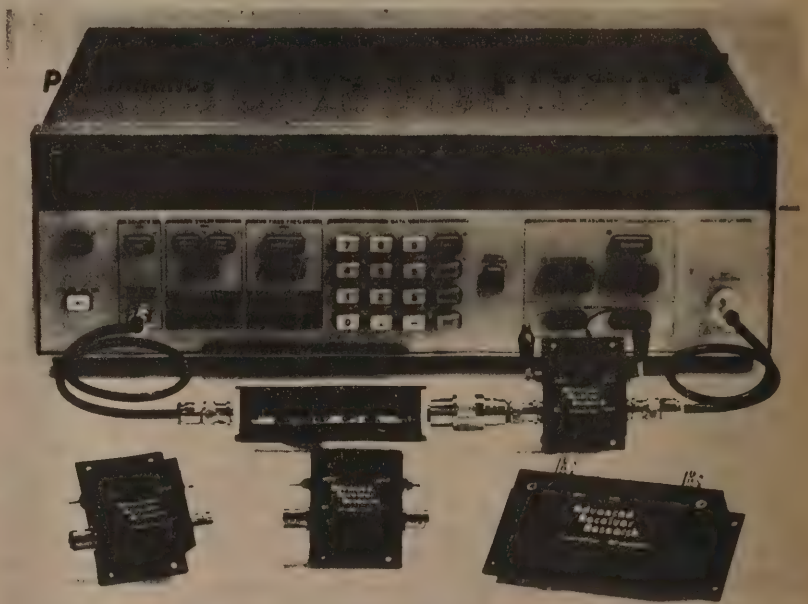
*REDRAWN BY WB0QCD 4-1-84

"DO YOU HAVE AN INTERSTING STORY ON ATV? SHARE IT WITH US IN A5!"

ADVANCED RECEIVER RESEARCH ANNOUNCES NEW RF SWITCHED PREAMPS!

SP432VD, SP432VDA, SP432VDG, EXCELLENT FOR ATV'ERS

ADVANCED RECEIVER RESEARCH in Burlington, CT. has provided ATV'ers for many years now, quality low-noise-high gain preamplifiers that boost incoming television RF signals. If you are running a FSTV station and do not employ some sort of "preamp", you are missing alot of signals. ARR has just announced an expanded line of inline RF SWITCHED preamps. These unique new items were on display at the 1984 Dayton Hamvention. The new models include SP28VD, SP50VD, SP50VDG, SP144VD, SP144VDA, SP144VDG, SP220VD, SP220VDA, SP144VDG, SP220VD, SP220VDA, SP220VDG, SP432VD, SP432VDA and SP432VDG. The most popular models for ATV use are the SPD432VD (Bipolar 1.9 NF 15 db gain $62.95), SP432VDA (Bipolar 1.2 NF 17db gain $79.95) and the SP432VDG (GaAsFET 0.55 NF 16 db gain $109.95). All listed models are RF switchable up to a power rating of 25 watts. We have yet to hear a "bad" story on this company or on their service. In fact, we have witnessed a number of ATV'ers in our local area who needed replacements on the amplifying transistor (they transmitted thru them), sent their preamp back to the factory and had them returned inside of two weeks along with a billing invoice. -A5



Receive Only	Freq. Range (MHz)	N.F. (dB)	Gain (dB)	1 dB Comp. (dBm)	Device Type	Price
P28VD	28-30	<1.1	15	0	DGFET	$29.95
P50VD	50-54	<1.3	15	0	DGFET	$29.95
P50VDG	50-54	<0.5	24	+12	GaAsFET	$79.95
P144VD	144-148	<1.5	15	0	DGFET	$29.95
P144VDA	144-148	<1.0	15	0	DGFET	$37.95
P144VDG	144-148	<0.5	24	+12	GaAsFET	$79.95
P220VD	220-225	<1.8	15	0	DGFET	$29.95
P220VDA	220-225	<1.2	15	0	DGFET	$37.95
P220VDG	220-225	<0.5	20	+12	GaAsFET	$79.95
P432VD	420-450	<1.8	15	−20	Bipolar	$32.95
P432VDA	420-450	<1.1	17	−20	Bipolar	$49.95
P432VDG	420-450	<0.5	16	+12	GaAsFET	$79.95
Inline (rf switched)						
SP28VD	28-30	<1.2	15	0	DGFET	$59.95
SP50VD	50-54	<1.4	15	0	DGFET	$59.95
SP50VDG	50-54	<0.55	24	+12	GaAsFET	$109.95
SP144VD	144-148	<1.6	15	0	DGFET	$59.95
SP144VDA	144-148	<1.1	15	0	DGFET	$67.95
SP144VDG	144-148	<0.55	24	+12	GaAsFET	$109.95
SP220VD	220-225	<1.9	15	0	DGFET	$59.95
SP220VDA	220-225	<1.3	15	0	DGFET	$67.95
SP220VDG	220-225	<0.55	20	+12	GaAsFET	$109.95
SP432VD	420-450	<1.9	15	−20	Bipolar	$62.95
SP432VDA	420-450	<1.2	17	−20	Bipolar	$79.95
SP432VDG	420-450	<0.55	16	+12	GaAsFET	$109.95

Every preamplifier is precision aligned on ARR's Hewlett Packard HP8970A/HP346A state-of-the-art noise figure meter. RX only preamplifiers are for receive applications only. Inline preamplifiers are rf switched (for use with transceivers) and handle 25 watts transmitter power. Mount inline preamplifiers between transceiver and power amplifier for high power applications. Other amateur, commercial and special preamplifiers available in the 1-1000 MHz range. Please include $2 shipping in U.S. and Canada. Connecticut residents add 7-½ % sales tax. C.O.D. orders add $2. Air mail to foreign countries add 10%. Order your ARR Rx only or inline preamplifier today and start hearing like never before!

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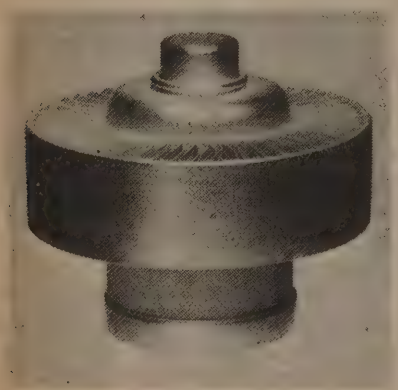
Channel 12

Another New Product
by William Orr
W6SAI

NEW ELMAC 3CX800A7 UHF TUBE AVAILABLE!



new triode

EIMAC has recently announced the 3CX800A7, a new tube which should be of interest to both Radio Amateurs and the HF/VHF world at large. It's an 800-watt dissipation, "grounded grid," high-mu triode rated for full-power operation to 350 MHz and is useful to 450 MHz. A compact powerhouse, it measures only 2-3/8 inches high from the plate cap to the tip of its base pins. Two tubes will provide 1500 watts PEP or CW output for Amateur service in accord with the latest FCC ruling.

A data sheet including complete specifications can be obtained by writing to me at EIMAC, 301 Industrial Way, San Carlos, California 94070.

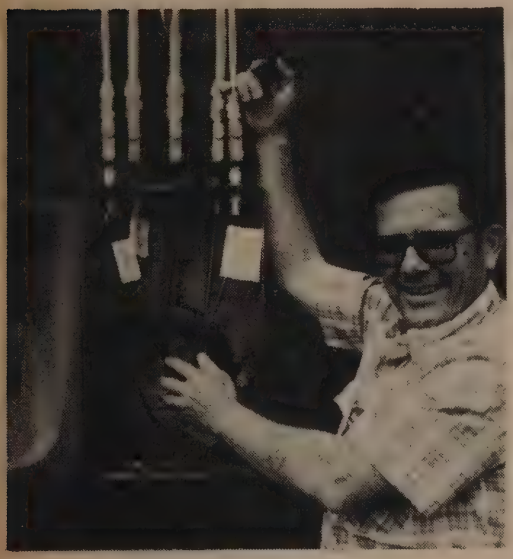
reference

1. William I. Orr, W6SAI, "ham radio techniques," *ham radio*, January, 1983, page 67.

MEET CHARLIE HUDSON WD4ABZ

Charlotte North Carolina

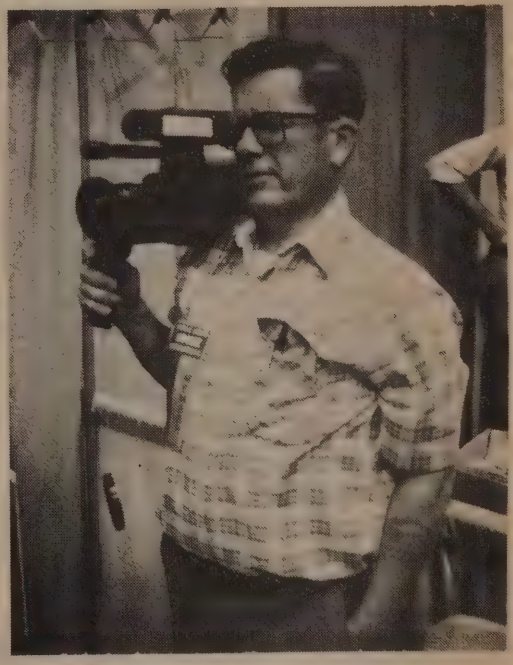
The 1984 CHARLOTTE HAMFEST handout booklet carried a full page article on FSTV basics by Charlotte ATV'er Charlie Hudson WD4ABZ. Charlie has a personality that can best be summed up as a true southern "good ole boy". He "livened" the A5 Hospitality Suite party at Dayton 1983 and was again most helpful during our recent trip to Charlotte. There are only two FSTV stations "on-the-air" in Charlotte at the present time (Howard Cochran is the other), but after the 2-day Hamfest-there should be some interest about to generate. WD4ABZ-TV has a very impressive station dominated only by an 85 foot tower with two 88-element J-Beams (one for received and preamped and one for transmit) fed with low-loss inexpensive 75 ohm cable-TV hardline. He even uses it for VHF and HF antennas with the hardline cable coming into a modified electrical junction box which then feeds RG8U type coax on into the house and shack. Charlie runs basicallly Kenwood HF equipment and SILVERNAIL ATV equipment in his colorful" red, white and blue FSTV shack! -A5



Hardline Junction Box

No problems with bringing hardline into the ATV shack with this "mod" electrical electronical box.

Charlie taped the entire Charlotte Hamfest on his portable VCR unit.



Videotaping an "A5" interview

Above the trees overlooking Charlotte

The WD4ABZ-TV shack is painted a bright red, white & blue for color FSTV!

CQ ATV 439.25 MHz.

The OM at his favorite position

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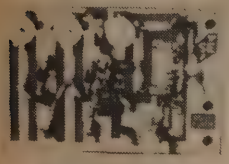
ATV KITS AND MODULES

VM-2 **VIDEO MODULATOR** — Wideband collector video modulator for solid state exciters such as those from GLB and Hamtronics. Input for 4.5MHZ audio sub-carrier. 2½" x 1½"; **$15.50** kit, **$19.95** assembled.

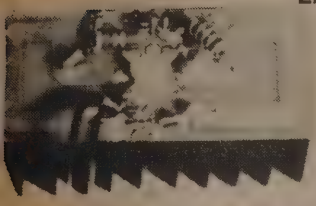
A-2 **4.5MHZ AUDIO SUB-CARRIER** — Accepts audio from VCR or GLB audio processor to provide ATV audio on TV set. Has on-board voltage regulator and shielded inductor. 2 3/4" x 1"; **$19.95** kit, **$25.95** assembled.

SA-1 **VIDEO SYNC AMP** — Provides separate video sync gain control for VM-2 above or SE-1a transceiver. Useful when driving solid state amps. 1 3/4" x 1 1/4"; **$15.95** assembled, **$12.95** kit.



DC–1 **UHF CONVERTOR** — Varactor tuned with 2 RF stages. **NE64535** input standard. Double sided stripline design. Outputs to TV ch. 2, 3 or 4. Can be tower mounted. 11 – 14vdc. 2" x 3". **$39.95** kit, **$54.95** , assembled, **$89.95** complete in box.

P-1 **WIDEBAND LOW NOISE UHF PREAMP** — Uses **NE64535** transistor for min. 18db gain and 0.6db noise figure. Covers 420–450MHZ band. Other frequencies received with change in input inductor. 2 1/4" x 1 3/8"; **$22.95** kit, **$31.95** assembled.



LA-1 **UHF AMPLIFIER** — Uses 15 watt MRF641 transistor with 7.8db gain @ 470MHZ. Stripline inductors with on-board pin diode antenna switching for a receiver. Designed for wideband color video with exciters such as the GLB T450L that provides up to 3 watts drive. Drilled and tapped heatsink included (4 1/2" x 1 3/4"). 1 to 3 watts drive typically gives 6 to 18 watts output. 12 – 14vdc operation @ 4 amps max. Double-sided board is 4½" x 2". **$79.95** assembled with test data.

LA–45 UHF AMPLIFIER — Uses MRF646. Input power of 6-15 watts typ. gives 20-50 watts output. Biased for linear operation. Kit includes all parts, instructions and 4.2" x 3" double-sided stripline board. Needs 12-14 vdc @ 9 amps max. **$64.95** kit. 4" x 5.5" x 1.75" heatsink **$15.00**.

GLB T450L TRANSMITTER — 4 1/2" x 2" RF board typically supplies 2–3 watts FM output, 1 – 1½ watts average video RF output. Changes for wideband video modulation provided. Comes with crystal for 439.25MHZ, with other frequencies available upon request. Also includes separate 1" x 4" audio processor board which supplies audio for FM modulation or for the A–2 4.5MHZ audio kit above. 12–14vdc @ 2 amps max. **$69.95** kit, **$89.95** assembled and tuned. *Kit now with pre-wound coils*

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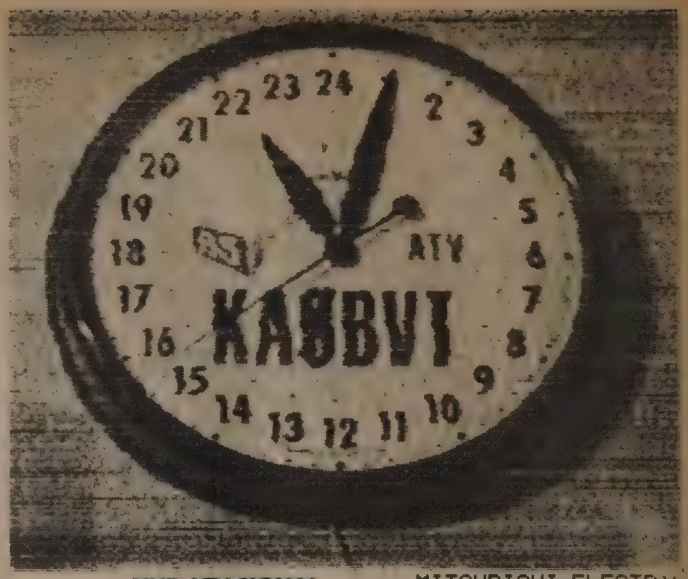
MITSUBISHI REVOLUTIONIZES PRINTER MARKET!

In our April issue, "A5" was the first known electronics publication to release first information and pictures about a revolutionary new product coming to the U.S.A. marketplace from MITSUBISHI ELECTRIC SALES AMERICA, INC., 3010 E. Victoria Street, Rancho Dominquez, CA. 90221. The product is a model P50U VIDEO PRINTER. This printer accepts any standard composite video input from TV Sets, VCR's, Videodisc Players, Cameras, Computers (FSTV/SSTV/FAX Converters), etc. and at the push of a button-prints out quietly in less than 15 seconds-a clear "high-resolution" black/white 3 15/16" X 3 5/16" hardcopy picture! Printouts are reproduced in 16 discrete grey level tones ranging from black to white with an image resolution of 280 X 234 dots. Print contrast can be adjusted in three different steps (light, normal, dark). Prints are made on special thermo-sensitive paper that appears to be available direct from MITSUBISHI. Each roll is 82 1/2 feet and will accommodate approximately 220 prints. Other features include remote control, multiple memory copies, positive/negative conversion, reverse scanning and a helpful paper print feed advance.

U.S. MARKET STILL QUESTIONABLE?

After an earlier attempt to bring a few of these P50U prnters in from Japan failed, "A5" obtained one of these little jewels (test store) and will be showing it at the 1984 DAYTON HAMVENTION (Booth #279). Our serial # is 000005. Apparently, a test market situation occurred in California for about two weeks with a few large Department stores selling a small allotted number of the units. Needless to say, they sold out quickly. The P50U printer has been on the market in Japan now for sometime with Amateurs buying up these little jewels for ATV/SSTV/FAX applications. USATVS Members Greg Mengell KA6DPV of California and Tom Harrington of UNIVERSAL ELECTRONICS in Reynoldsburg, Ohio, also acquired one of the units and are reporting great results. The future U.S.A. Market situation has been somewhat confusing with MITSUBISHII officials offering conflicting statements as to availability. Several employess at MITSUBISHI in a California location even tried to deny the existance of this ingenious product while others claimed that a large Telephone Company conglomerate was trying to buy up the market for their own personal business use applications. One Chicago based official denied the "lock-up" story citing Underwriters Labatory Certification as the reason for delay in marketing. "A5" has learned that a UL listing was issued on March 15th for the P50U printer.

Whenever the market opens up (we will keep you abreast-you do the same) one thing is for sure. The hardcopy printout market will never quite be the same. What intriques us even more, as in buyinga new automobile off the showroom floor, is just what lies "under the hood"? A few of these units are still possibly available. If you would be interested in obtaining one, please drop us a line. Retail price looks to be in the $500.00 range. -WB0QCD



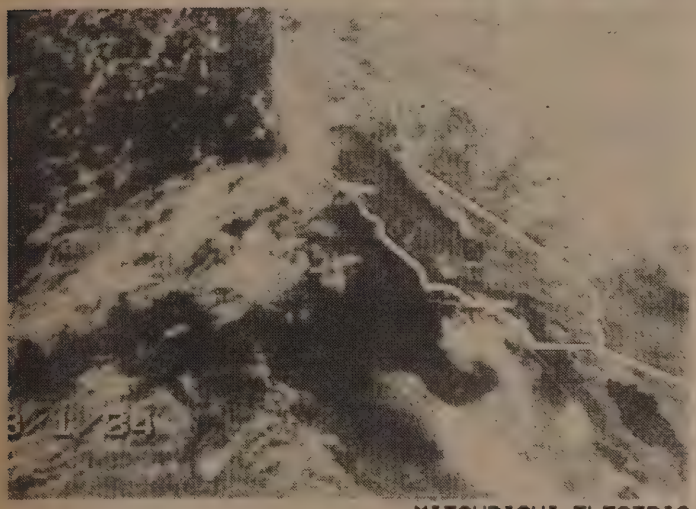
LIVE ATV SIGNAL MITSUBISHI ELECTRIC

TED KOPPEL ABC NEWS

LIVE CAMERA -WBOQCD MITSUBISHI ELECTR.

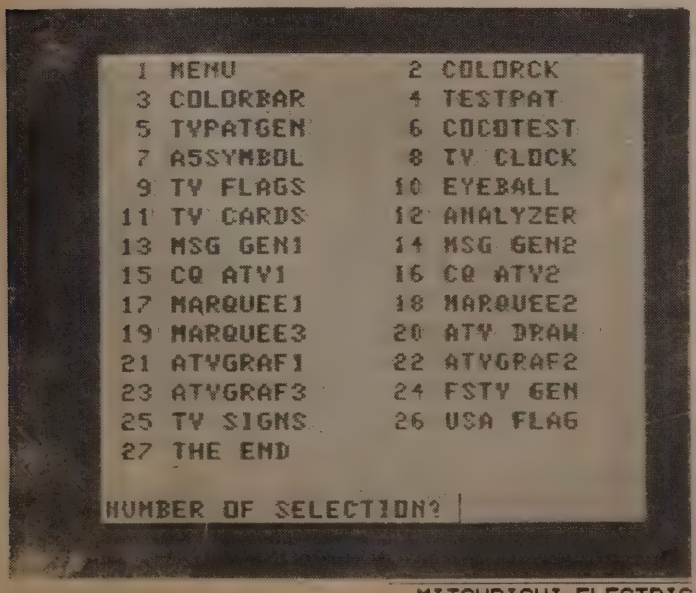
MITSUBISHI ELECTRIC

"LIVE" Off-The-Air FSTV Image 25 Miles On 439.25 MHz. Using P.C. TC-1



MITSUBISHI ELECTRIC

West Coast Weather Fax Signal Captured On Wraase SC-1 Unit



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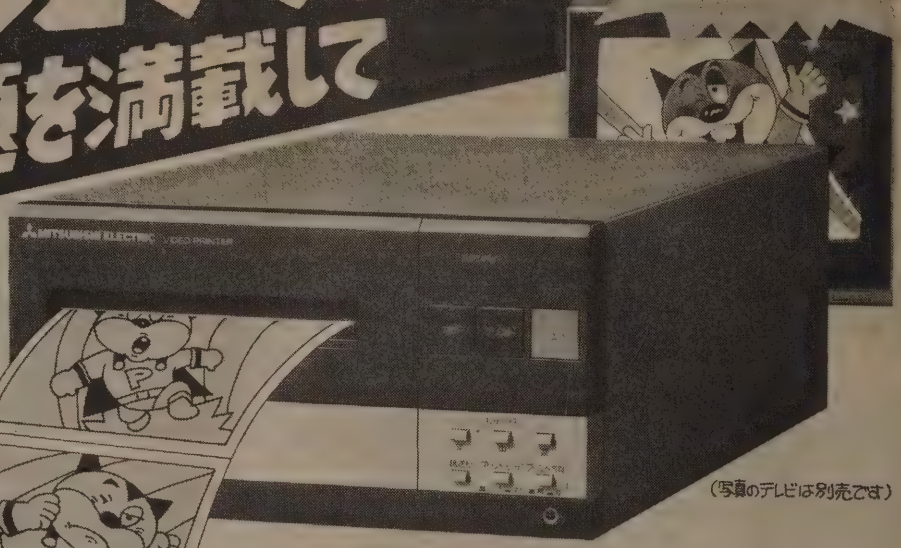
テレビプリンター

話題を満載して



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TURN YOUR ATV STUDIO INTO A CATV FEED

Opportunities Exist In Small Communities For Energetic ATV'ERS!

"In the MAY 1983 Volume #13-5 issue of "A5", we featured a CATV article entitled "CABLE-TV CAN BE PROFITABLE TO ATV'ERS". This article basically explained a proposed setup agreement between a Cable-TV Company operating in the state of Iowa and a smalltown energetic Amateur TV operator (WB8QCD) who wanted to set up a "local" channel in his community for public service at low expense. The article also touched briefy on CATV RFI problems to Amateurs particularly CATV channels E, and XX (439.25 Mhz.). It was established in the local city contract ordinance that no channels falling in the Amateur Radio band would not be used for the carrier of video or audio transmissions. The following is an updated "progress report" on this particular situation which could apply to other ATV'ers in other parts of the country." -A5

LCTV-9 Goes "On-The-Air"

With the groundwork laid for an independently leased local community CATV channel, it was just a matter of time before needed equipment could be ordered and installed. LOWDEN COMMUNITY TV (LCTV) (Channel 9) went "on-the-air" for the first time on Tuesday, March 27th at 3 p.m. Installers from the DOW SAT CABLE-TV Company of Williamsburg, Iowa ran a regular shielded RG59U coaxial cable from the in-basement location to the main outside telephone utility pole in an alley just behind the at home "studio feed" facility (a distance of about 75 feet). This combination video and audio feed line connected to a larger, already installed jacketed 3/4 inch 75 ohm run that goes up to the CATV "Head End" building about a block away. This "outgoing" studio feed signal is driven by a CATEC (Mountain View, CA. 94043) Model #TM2400A 19" rack mounted enclosed TV Modulator unit tuned for the midband TV channel C which runs from 132-138 Mhz. with a video carrier at 133.25 Mhz., color burst at 136.83 Mhz. and audio subcarrier at 137.75 Mhz. This CATV channel C corresponds to regular TV channel 9 once fed thru the customers "converter box". Since regular TV channels 2-13 (A) were already being used in the Lowden CATV system, the converter box has a slide switch which moves from left to right to allow an additional channel 2-13 (B) selection. The "local" channel was placed between popular Super Station WTBS Atlanta, CBN (Christian Broadcast Network) and the HBO and CINEMAX Premium Movie Channels thus assuring viewer "click-thru" awareness. The 133 Mhz. fed channel then goes directly into splitter that feeds into the main demodulator system and an "on-the-air" TV monitor. Monitoring at the studio end is accomplished by viewing and listening to the regular incoming CATV line that feeds the household TV sets (What better method than looking at the "finished" product?).

A large 12 inch Quartz (eliminates power loss time problems) Seth Thomas clock was purchased on sale for $19.95 (pictured) and is mounted at camera level on a white painted concrete wall. Three economical reflective lighting fixtures (like the kind you see at hardware store-aluminum reflectors) were used to to light the area of the time appartus. The clock and black/white HITACHI HV625 camera is mounted high and out of the way of the CATV working area. A good sized clean furnace room has been converted into the "studio area". The room was insulated against weather with styrofoam and fibreglass which also aided in a better quality sound studio setting. A cheap AMF Paragon 110VAC 24 hour wall timer is used to turn on and off most equipment.

Ease Of Operation Is The Key

The visual clock/camera and lights are turned on automatically each day at 5 a.m. and are turned off at midnight. This saves power and gives a needed break to the camera's vidicon tube. An agreement was reached with a nearby FM Radio Station (KRVR Davenport) to pipe in 24 hour "easy listening" FM music/weather/news (the station pays a small fee for this exclusive distribution). The FM audio is not on the switched in/out AC line which gives the viewer (listener) low-key, relaxing "black screen" only music between the hours of midnight and 5 a.m. A Radio Shack TRS80C Color Computer was installed (16K $159.00) along with a GREEN VALLEY MICRO "Scroll-A-Roll" software program that handles a video "Community Bulletin Board" during prime time hours. Other "live" or videotaped programming is fed into the local channel system (announced both on-the-air and in the local weekly newspaper) ranging from Cub Scout, Brownie, Lions, etc. and other civic group (City Council) meetings to planned "live" summer broadcasts of local baseball games. Even "Ham Radio" programs (LIVE ATV) can be produced and fed into the system directly. One goal soon to be achieved is a direct resident "call-in" that allows the caller to talk to the LIVE FSTV Ham Station many miles away! Local high school students are used on weekends manning the audio portions of the channel playing "local DJ" spinning their favorite records and tapes and doing commercial spots for local businesses.

You Won't Get Rich,

Of course, as with any business venture, there are operating costs. On such a community public service project (especially in a small town) one doesn't intend on getting rich-in fact you just try to break even or make a little to cover your time and abuse of needed equipment. Much of the video and tape equipment used is personally owned and requires extra "shared" care. Low commercial advertising rates are charged for weekly, bi-monthly or monthly ad insertions. Contributions are also accepted and openly asked for. The satisfaction in operating a simple "local TV channel" for the home community as well as the experience learned in smalltime broadcasting is enormously rewarding. Where else can an "energetic" ATV'er find a "big-time act?" -WB8QCD

AMATEUR TELEVISION

NOW MORE STANDARD FEATURES . . . . STILL $399 DELIVERED
TWO FOR $750

ALL YOU NEED IN ONE BOX

TC-1 PLUS

SEE WHO YOU ARE TALKING TO! Show the shack, describe projects, run video tapes, computer programs, etc . . . in full color, sound, and in live action.

STANDARD FEATURES:

- **OVER 10 WATTS PEP RF OUTPUT.** Crystal controlled continuous duty transmitter. Specify 439.25, 434.0, 426.25 standard or other 70 cm freq. 2 freq option add $26.
- **BASE, MOBILE, or PORTABLE.** Use the builtin AC supply or external 13.8 vdc at 3 amps.
- **TWO VIDEO AND AUDIO INPUTS** for camera, VCR, or computer. Wide bandwidth for high resolution broadcast quality color video or computer graphics. Standard broadcast subcarrier sound which is heard thru the TV speaker. On-carrier audio optional at $40.
- **RECEIVE ON YOUR STANDARD TV SET** tuned to channel 3 or 4. Sensitive varicap tuned downconverter covers simplex and repeater freq over the whole 420-450 mHz 70 cm amateur band. Low noise NE64535 preamp stage.
- **VIDEO MONITOR OUTPUT** of your transmitted picture makes video gain, lighting, etc. adjustments easy & accurate.
- **ATTRACTIVE 10½ x 3 x 9 CABINET.**

SO WHAT ELSE DOES IT TAKE TO GET ON ATV?

Any standard TV set is used as the receiver. The TC-1+ downconverts the 70 cm ham band down to channel 3 or 4. Just connect a short coax from the TC-1+ to the TV sets antenna input.

Any source of standard 1 volt composite video, such as is found in portable color or black and white cameras, VCRs, or computers can be plugged into the TC-1+ and transmitted to another station. Repeat SSTV to local ATVers. Audio can be from a low Z dynamic mic, or line level from cameras, VCRs, computers, etc.

The antenna is really the secret to success with ATV. We suggest the MBM 48/70 J Beam antenna with its high 14 dbd gain and wide bandwidth, and some of our Saxton 8285 low loss coax between it and the TC-1+. Antenna heigth at or above the tree tops makes a big difference.

Its really quite simple to have your own TV station capable of sending and receiving video 15 to 100 miles and more. DX with this set up is similiar to 2 meter FM with omni antennas.

THATS IT! It's easy!

ACCESSORIES:

KLM 440-27 14dbd 70cm beam antenna	$89 del.
450 AEA Isopole omni antenna	$59 del.
Saxton 8285 low loss 50 ohm coax, 100 ft.	$41 del.
Mirage D1010N 100 watt pep all mode amp	$289 del.
Hitachi HV62U black and white TV camera	$179 del.
Hitachi GP-8 8:1 zoom color camera	$749 del.

If you wish to build your own system, see module page. The TC-1+ contains the TXA5, PA5, FMA5, TVC-2L, & DM-1 module functions.
Tech class or higher license required for purchase. Normal shipment within 2 days on charge card or postal money order.

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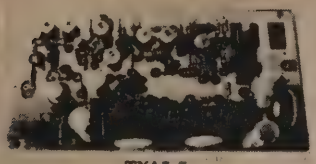
TOM W6ORG MARYANN WB6YSS

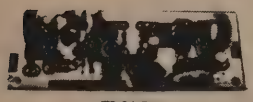
Build Your Own ATV Station With These Few Modules

The Basic 3 Transmitting Modules (buy all 3 save $8) ...$199



TXA5-5

PA5



FMA5

1. TXA5-5 ATV EXCITER/MODULATOR ..... $89 del

Wired and tested module provides 80 mw to drive PA5 10 watt power amp. High/low power switch for normal 10 watts with PA5, or adjustable for high power amps such as Mirage D1010N. Accepts standard 1 volt composite video from color camera, VCR, computer, etc. Wideband modulator gives excellent color and high resolution. Built in sync expander. Draws 70 ma at 13.8 vdc. One crystal included, but 2 freq requires another crystal at $15. We stock 439.25, 434.0, & 426.25 mHz, other 70 cm freq may take 3 weeks. CA-1 on-carrier audio module add $30.

2. PA5 10 WATT PEP ATV POWER MODULE .....$89 del

A Motorola MHW-710-2 is mounted on a heat sink with stripline PC board to give over 10 watts pep video when driven by the TXA5. 50 ohms in and out. Broadband, covers the entire 420-450 mHz 70 cm band with no tuning. Draws a little over 2 amps at 13.8 vdc reg.

3. FMA5 AUDIO SUBCARRIER GENERATOR..... $29 del

Transmits broadcast standard sound with your picture. Accepts a low Z mic (100-600 ohms). also line level audio from VCRs, camera mics, computers, etc. Up to 1 v p-p drive to the TXA5, VM-2, or VM-4 modulators. Works with any transmitter with 5 mHz modulation bandwidth. Draws 20 ma from 13.8 vdc supply.

All modules can be run from a 3 amp 13.8 vdc regulated power supply. A good UHF T/R relay should be used, we stock the Magnacraft W120X-14 at $44 delivered. The modules should be mounted in an aluminum chassis or cabinet for heat sinking and shielding. See chapter 14 of 1983 ARRL Handbook.

420-450 mHz ATV RECEIVING DOWNCONVERTERS

TVC-2

TVC-2G

TVC-4

TVC-2 ATV DOWNCONVERTER .....$49 delivered

Wired and tested module connects between 70 cm antenna and TV set tuned to channel 2, 3, or 4. Varicap tunes the whole 420-450 mHz amateur band. Sensitive MRF901 preamp, stage digs out the weak ones and the hot carrier double balanced mixer resists intermods and overload. Requires +11 to 18 vdc at 20 ma.

TVC-2L more sensitive with NE64535 preamp stage ..... $59 del

TVC-2G most sensitive with GaAsFet (.5db NF) stage ..... $79 del

It can be mounted in the shack, but is designed for antenna mounting for best sensitivity (Besides low noise figure, you gain the feedline loss). Has extra double tuned bandpass filter to reject strong UHF TV stations.

DCB DOWNCONVERTER CONTROL BOX .....$59 del

Provides variable 10 to 18 vdc thru coax to antenna mounted downconverters such as TVC-2G and TVC-12G. Also has 15 db gain line amp to drive long lines or splitters. Ready to go, comes in same cabinet as TVC-4.

TVC-4 PACKAGED DOWNCONVERTER with AC supply...**$89 del**

Contains the TVC-2, 120 vac supply, ready to go. BNC antenna input and F connector TV output. Handy for ATV demos, or community TV systems outside of the USA. Size is 5.3 x 2.5 x 7 inches.

TVC-4L contains the more sensitive TVC-2L..... $99 del

***Attention clubs, groups and exporters ..... the following quantity discounts apply to one module ordered at one time and sent to one address: 5-24 10%, 25-49 15%, 50-99 20%, 100-up 25%.**

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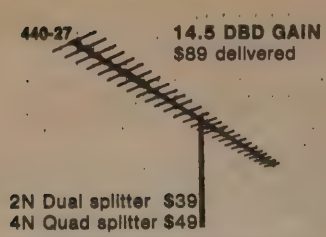
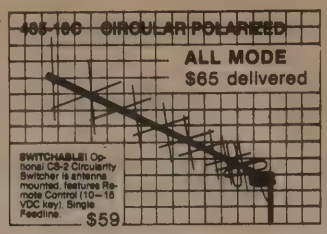
KLM BROADBAND ANTENNAS FOR ATV NEW!



BANDWIDTH:	420-450 MHz	BOOM LENGTH:	12 ft.
GAIN:	14.5 dBd	VSWR:	1.2:1
BEAMWIDTH:	36°	FEED IMP.:	50 ohm unbal.
WT. (LBS.):	7.5	BALUN:	1:1, 2KW
MOUNT/MAST DIA.:	Center/1¼"		


435-160 CIRCULAR POLARIZED
ALL MODE
$65 delivered
SWITCHABLE! Optional CS-2 Circularity Switcher is antenna mounted, features Remote Control (10–15 VDC key). Single Feedline.
$59

BANDWIDTH:	420-450 MHz	GAIN:	12 dBdc
BOOM LENGTH:	7.3 ft.	VSWR:	1.5:1
BEAMWIDTH:	44°	FEED IMP.:	50 ohm unbal.
WT. (LBS.):	4.5	BALUN:	2-4:1, 1KW
MAST DIA.:	Cen-Rear/1¼"	Ellipticity:	3dB MAX.

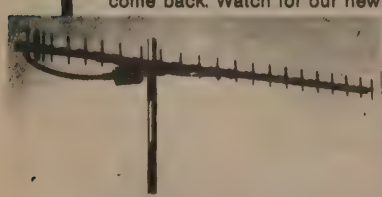
BANDWIDTH:	420-470 MHz	BOOM LENGTH:	2 ft.
GAIN:	8 dBd	VSWR:	1.2:1
BEAMWIDTH:	80°	FEED IMP.:	50 ohm unbal.
WT. (LBS.):	1.2	BALUN:	1:1, 2KW
MOUNT/MAST DIA.:	Rear/1¼"		

LOW LOSS COAX. 50 ohm Saxton 8285 foam RG8 type ..... 100 ft roll . . . **$41** ppd
Only 3.5 db/100' loss at 400 mHz. Tight 95% shield.

AEA 450 ISOPOLE OMNI GAIN ANTENNA ..... **$65** delivered.
High efficiency decoupling cones puts all the RF on the horizon where it counts. Great for local ATV round tables, portable with the Kreepie Peepie system, public service, FM remote base and repeaters. Ready to connect to your coax N connector and 1¼" mast. Low wind loading and DC grounded for ruggedness.

1200 MHZ ATV SYSTEMS

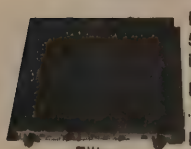
How about full duplex a atv? There are 5 atv channels on the 23 CM band starting at 1241 mHz with 12 mHz spacing available for repeater outputs, links, etc. Repeater output on this band with input on 70 CM lets you see your own video come back. Watch for our new KPA5-12 1 watt ATV transmitter to be out soon!



TVC-12G GaAsfet 23 CM DOWNCONVERTER ..... **$89** ppd
Sensitive GaAsfet remote varicap tuned 1215-1300 mHz to TV channels 7 or 8. Mounts on F9FT antenna to save feedline losses. Powered and tuned with 10-18 vdc thru coax from DCB control box. DCB Control Box with IF amp ..... **$59** ppd.

F9FT TONNA 23 Element YAGI ANTENNA ..... **$49.50** ppd
16.3 dbd measured gain, 5'10" boom, with N connector. Quad stacking frame and 4x splitter ..... **$150** ppd

BUILD YOUR OWN ATV REPEATER WITH THESE BASIC MODULES:


Filter

PSF438-ATV INTERDIGITAL VESTIGIAL SIDEBAND FILTER ..... **$132.50** ppd
5 mHz bandwidth for good color and sound but rejection for no desense. Copper plated 7 pole for typ 1.3db insertion loss.

MMC439-ATV CRYSTAL CONTROLLED DOWNCONVERTER ..... ch 3 IF . . . **$84.95** ppd
. . . 45.75 mHz IF $99.95 ppd. low noise MRF901. 30 db gain.

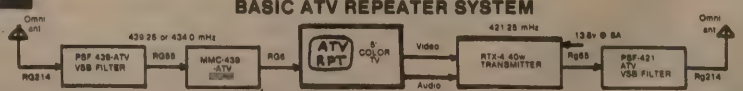
RCM-3 REPEATER CONTROL MODULE. Detects horiz sync to key up xmtr. Timers to key effects boards: IDers, test pattern, etc. Bare P.C. Board . . . **$15** ppd ..... Wired & tested . . . **$49** ppd

RTX-4 40 WATT PEP ATV REPEATER TRANSMITTER ..... **$799** ppd
Crystal controlled on 421.25 mHz. 7" high 19" rack panel contains shielded KPA5 exciter, VOR video operated relay, Mirage D24 amp, and fan. Req. reg 13.8 vdc at 8 amps and 120 vac.

RTX-4

NEW!

BASIC ATV REPEATER SYSTEM



SEE Chapt. 11 of "EVERYTHING YOU ALWAYS WANTED TO KNOW ABOUT AMATEUR TELEVISION" book for complete repeater info . . . adding special effects, mixing two meters, getting rid of desense and interferance from other transmitters at the same site, and special considerations with video operation.

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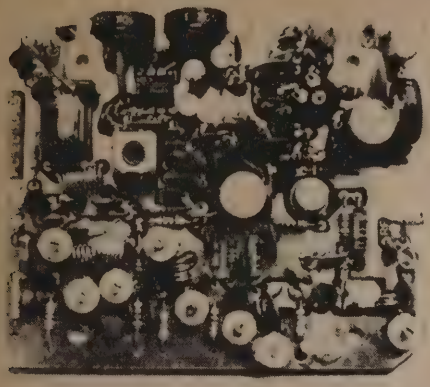
THE "KREEPIE PEEPIE" ATV TRANSMITTER IS HERE!



PA5 1 WATT ATV TRANSMITTER BOARD FEATURES:

1 watt pep minimum RF output on sync tip.

Full color and sound on one small 3.25 x 4" board.

Composite video input from camera, VCR, etc.

Runs on external 13.8 vdc at 300 ma supply or battery.

Wired and tested board covers 421 to 439 mHz.

Supplied with one xtal on 426.25, 434.0, or 439.25 mHz but capable of 2 freq operation with the addition of 2nd xtal (add $15). Other 70cm freq. available on special order.

Mic input from a low Z dynamic and line level audio input found in most portable color cameras, VCRs, or home computers provided.

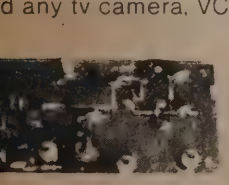
Schematic and application notes supplied for typical external connections, packaging, and system operation.

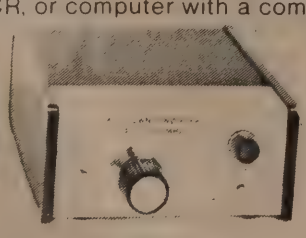
Price delivered via UPS surface in the USA is only **$159.** Technician class amateur license or higher required for purchase and operation.

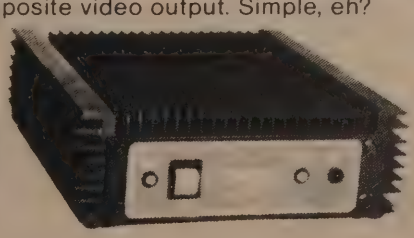
DO SOME OF THESE APPLICATIONS INTRIGUE YOU?

1. PORTABLE CORDLESS TV CAMERA. No heavy VCR to lug around or cable length limitation. You can even use your home VCR rather than a portapak. Now you can creep around and peep thru your camera more easily. Gives good pictures up to a mile with simple whip, and 40 miles using beams in flat terrain.
2. MOBILE OR PORTABLE ATV for public service events such as races, parades, marathons, etc. A Mirage D24 40 watt amp can be added for greater mobile coverage or base operation. Mount in an airplane for CAP and rescue searches for an eye in the sky.
3. REMOTE CONTROL OF R/C AIRPLANES or ROBOTS. Fly with a camera in the nose to control as if you are in the plane. Likewise a robot can now be out of site of the operator.
4. REPEATER SITE SECURITY OR COMPUTER VIDEO DISPLAY. Turn on thru your repeater a camera at the site to see the area, weather, read meters, or if a computer is used, show status, play games, etc. by remote control. With all the new technology using TV displays, it is natural for hams to adapt these new products to transmission over the air. What applications come to your mind?

HAT IS REQUIRED FOR A COMPLETE OPERATION SYSTEM? A TV set with a TVC-2 or TVC-4 420-450 mHz to annel 3 downconverter, 70 cm antenna, and coax cable to receive. Package up the KPA5, add 12 to 14 vdc, antenna, d any tv camera, VCR, or computer with a composite video output. Simple, eh?







CESSORIES:

wnconverter: TVC-2 wired & tested board $49
aricap tuned. Requires +11 to +18 vdc at 20 ma.
C-4 (TVC-2 in cabinet with ac supply $89
nore sensitive "L" versions with NE64535 preamp
tage add $10.

Mirage D24 1 in / 40 watts out all mode amp. $179
450 ISOPOLE omni gain 70cm antenna $65
KLM 440-6 8 dbd gain 60° beamwidth antenna $38
KLM 440-27 14.5 dbd gain broadband 70cm antenna ... $89
100' roll Saxton 8285 50 ohm low loss coax $41
VOR Video Operated Relay board $25

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DESIGN EVOLUTION IN RF P.A.'s

Now with GaAs FET Preamp

(See review in December '83 "A5")

- Linear (all mode) RF power amp with automatic T/R switching (adjustable delay)
- Receive preamp option, featuring GaAs FETS (lowest noise figure, better IMD). Device NF typically .5 dB.
- Thermal shutdown protection incorporated
- Remote control available
- Rugged components and construction provide for superior product quality and performance
- Affordably priced offering the best performance per dollar
- Designed to ICAS ratings, meets FCC part 97 regulations
- 1 year transistors warranty
- Add $5 for shipping and handling (Cont. U.S.). Calif. residents add applicable sales tax.
- Specifications/price subject to change

MODEL [1]	FREQUENCY [2] (MHz)	OUTPUT POWER (W)	INPUT POWER (W)	SUGG. PRICE LESS TAX $
1410 1410G	144	160	10	225 265
1412 1412G	144	160	30	199 239
2210 2210G	220	130	10	225 265
2212 2212G	220	130	30	199 239
4410 4410G	440	100	10	225 265
4412 4412G	440	100	30	199 239

1. Models with G suffix have GaAs FET preamps. Non-G suffix units have no preamp.
2. Covers full amateur band. Specify 10 MHz Bandwidth for 420-450 MHz Amplifier.

★*SEND FOR FURTHER INFORMATION*★

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"A5" Is Now Available In Video!

Set of 5 Disks $29.95

Single C120 Cassette $24.95

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"SHOWN AT DAYTON 84'"

ONLY $19.95 PLUS POSTAGE

"STANDBY FOR EXCITEMENT WITH"

AMATEUR RADIO

HAMFEST! ©1984

FUN FOR THE ENTIRE FAMILY!

A simple roll of the dice, lets you begin to "build" your ham shack. Purchase all the ham gear spaced around the board (from the retail store) that you can afford to buy. Study hard for those F.C.C. tests to advance you from Novice to Extra! Beware of QRM Interference and rejoice when getting those rare QSL cards. Hours of great fun for the entire family. Invite your other ham friends and standby for excitement!

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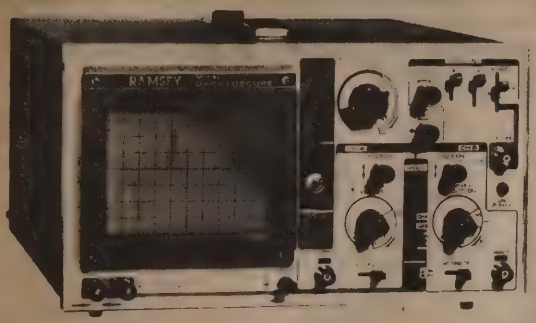
RAMSEY

THE FIRST NAME IN ELECTRONIC TEST GEAR



ATTENTION "A5" FAST SCAN TV OPERATORS!

NEW FROM RAMSEY–20 MHz DUAL TRACE OSCILLOSCOPE

Unsurpassed quality at an unbeatable price, the Ramsey oscilloscope compares to others costing hundreds more. Features include a component testing circuit that will allow you to easily test resistors, capacitors, digital circuits and diodes • TV video sync filter • wide bandwidth & high sensitivity • internal graticule • high quality rectangular CRT • front panel trace rotator • Z axis • high sensitivity x-y mode • very low power consumption • regulated power supply • built-in calibrator • rock solid triggering • high quality hook-on probes

$399.95 high quality hook-on probes included

RAMSEY D-1100 VOM-MULTITESTER

Compact and reliable, designed to service a wide variety of equipment. Features include • mirror back scale • double-jeweled precision moving coil • double overload protection • an ideal low cost unit for the beginner or as a spare back-up unit

$19.95

test leads and battery included

RAMSEY D-2100 DIGITAL MULTITESTER

A compact easy to use unit designed to operate like a pro. Featuring • 3½ digit LCD • low BAT. indicator • all range overload protection • overrange indication • auto-polarity • Transistor tester • dual-slope integration • vinyl carrying case

$54.95

h_{FE} test leads, battery & vinyl carrying case included

RAMSEY D-3100 DIGITAL MULTIMETER

Reliable, accurate digital measurements at an amazingly low cost • In-line color coded push buttons, speeds range selection • abs plastic tilt stand • recessed input jacks • overload protection on all ranges • 3½ digit LCD display with auto zero, auto polarity & low BAT. indicator

$59.95

test leads and battery included

CT-70 7 DIGIT 525 MHz COUNTER

Lab quality at a breakthrough price. Features • 3 frequency ranges each with pre amp • dual selectable gate times • gate activity indicator • 50mV @ 150 MHz typical sensitivity • wide frequency range • 1 ppm accuracy

$119.95

wired includes AC adapter

CT-70 kit	$99.95
BP-4 nicad pack	8.95

CT-90 9 DIGIT 600 MHz COUNTER

The most versatile for less than $300. Features 3 selectable gate times • 9 digits • gate indicator • display hold • 25mV @ 150 MHz typical sensitivity • 10 MHz timebase for WWV calibration • 1 ppm accuracy

$149.95

wired includes AC adapter

CT-90 kit	$129.95
OV-1 0 1 PPM oven timebase	59.95
BP-4 nicad pack	8.95

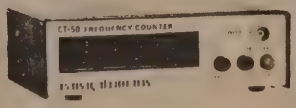
CT-125 9 DIGIT 1.2 GHz COUNTER

A 9 digit counter that will outperform units costing hundreds more. • gate indicator • 24mV @ 150 MHz typical sensitivity • 9 digit display • 1 ppm accuracy • display hold • dual inputs with preamps

$169.95

wired includes AC adapter

BP-4 nicad pack	8.95



CT-50 8 DIGIT 600 MHz COUNTER

A versatile lab bench counter with optional receive frequency adapter, which turns the CT-50 into a digital readout for most any receiver • 25 mV @ 150 MHz typical sensitivity • 8 digit display • 1 ppm accuracy

$169.95

wired

CT-50 kit	$139.95
RA-1 receiver adapter kit	14.95

DM-700 DIGITAL MULTIMETER

Professional quality at a hobbyist price. Features include 26 different ranges and 5 functions • 3 . digit inch LED display • automatic decimal placement • automatic polarity

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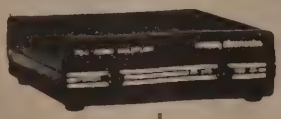
wired includes AC adapter

DM-700 kit	$99.95
MP-1 probe set	4.95



PS-2 AUDIO MULTIPLIER

The PS-2 is handy for high resolution audio resolution measurements, multiplies UP in frequency • great for PL tone measurements • multiplies by 10 or 100 • 0.01Hz resolution & built-in signal preamp/conditioner

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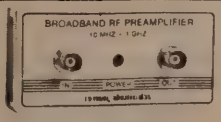
PS-2 kit	$39.95



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The PR-2 is ideal for measuring weak signals from 10 to 1,000 MHz • flat 25 db gain • BNC connectors • great for sniffing RF • ideal receiver/TV preamp

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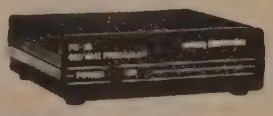
wired includes AC adapter

PR-2 kit	$34.95



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wired includes AC adapter

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"UNITED STATES FAX NET" FIRST EDITION

INTERNATIONAL FACSIMILE STATION GUIDE

A LISTING OF NEARLY 200 ACTIVE COMMERCIAL/AMATEUR FAX BROADCASTERS!

"The new U.S.A. Fax Net meets each Sunday at 3 P.M. EST on 14.245 MHz. Listed below are reported A4/F4 fascimile radio stations that transmit daily. If you have any additions or corrections to this roster, please let us know -QCD"

FREQUENCY	CALLSIGN	LOCATION	SPEED	TIME (GMT)
2.122	NPM	Hawaii, USA	120	----
2.179	NPM	Hawaii, USA	120	----
2.342	DHJ85	Geoph. B. Germany	90/120	----
2.554	NPM	Marianns ISL. Guam	120	0900-2200
2.618	GFE 25	Bracknell, England	120	1800-0600
2.815	----	Moscow, USSR.	60/90/120	1800-0510
3.253	VRC3	Frogisher, Canada	120	----
3.280	----	----	60/90/120	----
3.289.5	GFA21	Bracknell, U.K.	----	0000-2400
3.354	----	Tashkent, U.S.S.R.	120	----
3.357	NSS	Norfolk, Va. USA	120	24 hrs.
3.365	JMJ	Tokyo, Japan	120	----
3.377	NPN	Mariannas Isl. Guam	120	0900-2200
3.412	IMB51	Rome, Italy	120	----
3.622.5	JMH	Tokyo, Japan	120	0900-2200
3.622.5	----	Madrid, Spain	60/120	----
3.650	AOK	Rota, Spain	----	2100-0700
3.695.8	DEC70 JMH	Quickborn, Germany	120	0905-1014
3.695.8	----	Hamburg, Germany		
3.713		Rota, Spain	----	----
3.766	GFA 21	Bracknell, England	----	----
4.014	ZRO 5	Pretoria, S. Africa	120	1730-0300
4.035	FTE3	Paris, France	60	0300-0800
4.037.5	SAY,SMA	Stockhom, Sweden	----	0000
4.037.5	----	Stockhom, Sweden	----	----
4.0475	FTE4	Paris, France	60	1900-1940
4.235	----	Monsanto, Portugal	----	----
4.247	----	Northwood, U.K.	----	----
4.268	CKN	Esquimalt B.C. Canada	120	----
4.271	CFH	Halifax, Canada	----	0316-2300
4.280	MHU	Northwood, U.K.	----	----
4.298	----	Alaska, USA	120	0100-1500
4.344.1	NMC	San Francisco, CA. USA	120	0100-1500
4.445	----	Novosibirsk, USSR	90/120	1140-2350
4.475	----	Novosibirsk, USSR	120	1140-2350
4.495.5	CKN	Esquimalt, BC, Canada	120	----
4.505	KWAS	Washington, DC. USA	60	H24
4.516.7	----	Khabarovsk, USSR	90/120	H24
4.526	SUU 36	Cairo, Egypt	----	----
4.542	----	Bundesw	----	----
4.562	KWAS	Washington, DC. USA	----	H24
4.570	----	Wahn	----	----
4.610	GFA22	Bracknell, U.K.	----	----
4.775	KWAS	Washington, DC. USA	----	24 hrs
4.782	GFE21	Bracknell, U.K.	90/120	1800-06CC
4.802	NPM	Hawaii, USA	----	----
4.975	NSS	Norfolk, USA	----	24 hrs.
4.975	NPN	Marian Isl. Guam	----	0900-2200

5.037.5	KVM 70	Honolulu, HI, USA	120	3215-0106
5.090	----	Tashkent, USSR	60/90/120	
5.100	AXM32	Melborne, Australia	----	----
5.127	----	Cairo, Egypt	----	----
5.185	LRO 69	Buenos Aires, Argentian	120	----
5.206	AOK	Rota, Spain	----	0800
5.210	----	Novosibirsk, USSR	120	1140-2350
5.285	----	Tashkent, USSR	60/90/120	H24
5.335	----	Moscow, USSR	----	----
5.335	----	Novosibirsk, USSR	90/120	24 hrs.
5.405	JMJ2	Toyko, Japan	120	----
5.525	BAF 6	Beijing, China	120	----
5.745	KWAS	Washington, DC. USA	----	H24
5.755	AXI 32	Darwin, Australia	----	----
5.817.5	KWAS	Wash, DC. USA	----	H24
5.850	OXT	Copenhagen, Denmark	120	0030-1005
5.865	----	Wellington, New Zealand	120	0600-1800
5.915	ZLZ 20	Wellington, New Zealand	120	----
5.945	LMO5	Oslo, Norway	----	----
6.330	CFH	Halifax, Nova Scotia	120	----
6.435.55	MHU	Northwood, U.K.	----	----
6.436	----	Northwood, U.K.	----	----
6.460	NPN	Mariannas Is. Guam	----	0900-220
6.492.35	----	Northwood, U.K.	----	----
6.765	----	Bangkok, Thailand	----	----
6.901	SAY, SMA	Stockhom, Sweden	----	24 hrs.
6.912.5	KWAF	Washington, DC. USA	----	0500-2000
6.918.5	----	Macrid, Spain	----	0410-1715
7.626	AOK	Rota, Spain	----	24 hrs.
7.710	VRC-3	Frobisher, Canada	----	1815
7.750	----	Moscow, USSR	----	24 hrs.
7.856	----	New York, AP, USA	----	24 hrs.
8.018	OFA83	Helsinki, Finland	----	0040-0740
8.027	NAM	Norfolk, VA. USA	----	----
8.040	GFA 23	Bracknell, U.K.	----	0000-2400
8.0575	LMO8	Oslo, Norway	----	----
8.080	NAM	Norfolk, VA. USA	----	24 hrs
8.085	FTI8	Paris, France	120	0200-2200
8.100	AOK	Rota, Spain	----	24 hrs.
8.1466	IMB55	Roma, Italy	120	----
8.185	FTI8/B	Paris, France	----	0230-2145
8.502	NIK	Boston, Mass., USA	----	1607
8.502	MHU	Northwood, U.K.	----	0700-2110
8.6425	LMO34	Oslo, Norway	----	----
8.680.1	NMC	San Francisco, CA. USA	----	0100-2300
9.203	GFE22	Bracknell, U.K.	120	24 hrs.
9.389	WFH/K	Brentwood, NY. USA	----	0712-1212
9.440	NPM	Honolulu, Hawaii, USA	----	24 hrs.
9.876	ACK	US Navy, Spain	----	----
9.890	CFH	Halifax, N.X. Canada	----	0316-2300
9.947	DFJ94	Main Flingen, Germany	----	----
10.185	KWAF	Washington, DC. USA	----	0500-2000
10.250	----	Madrid, Spain	----	0410-1715
10.340	AX134	Darwin, Australia	----	24 hrs.
10.387	----	Nairobi, Africa	----	----
10.555	----	----	----	----
10.865	NAM	Norfolk, VA. USA	----	24 hrs
10.980	RDD78	Moscow, USSR	----	24 hrs.
10.929	----	----	----	----
11.030	AXM34	Canberra, Australia	----	0138-2218

U.S. FAX NET INTERNATIONAL FASCIMILE STATION GUIDE CONTINUED...

11.035	WFH/K	Brentwood, NY. USA	----	0712-1212
11.086.5	GFA	Bracknell, U.K.	----	24 hrs.
11.090	NFM	Honolulu, HI, USA	----	----
11.406	----	----	----	----
11.461	----	----	----	----
12.184	AOK	Rota, Spain	----	24 hrs.
12.201	KWAF	Washington, DC USA	----	0500-2000
12.260	----	Paris, France	----	0700-1830
12.844.5	MHU	Northwood, U.K.	----	----
12.903	AOK	Rota, Spain	----	0800-2000
13.366	----	----	----	----
13.370	----	Moscow, USSR	----	24 hrs.
13.472.5	KWAF	Washington, DC. USA	----	0500-2000
13.510	CFH	Halifax, NS Canada	----	0315-2300
13.667.5	GVU/Y	Dakar, Senegal	----	24 hrs.
14.245	----	FAX Worldwide (Amateur)	----	24 hrs.
14.245	----	**UNITED STATES FAX NET! CALL KIIE**	----	**Sundays At 3 P.M.**
14.436	GFE	Bracknell U.K.	120	24 hrs.
14.510	----	S. Africa	----	----
14.609	----	----	----	----
14.690	----	----	----	----
14.737	RXO72	Moscow, USSR	120	24 hrs.
14.822.6	----	----	120	----
15.785	WFM-55	NY-UPI USA	----	24 hrs.
15.815	----	----	----	----
15.815	----	NY-UPI USA	----	----
15.824	IMB56	NY-AP USA	----	24 hrs.
15.950	----	Moscow, USSR	----	0520-2045
16.3325	DFQ33	Mainflingen, Germany	----	----
16.410	NAM	Norfolk, VA. USA	----	1400-2100
16.938	MHU	Northwood, U.K.	----	0700-2110
17.437	WFK67	New York, USA	----	----
17.670	KWAF	Washington, DC, USA	----	0500-2000
18.261	GFE24	Bracknell, Germany	----	----
18.509	WFR-18	NY-UPI USA	----	24 hrs.
18.515	----	NY-UPI USA	----	----
18.664	----	NY-UPI USA	----	24 hrs.
19.850	----	NY-AP USA	----	24 hrs.
20.015	----	----	----	1800-200
20.799	WFN20	NY-UPI USA	----	----
20.925	----	----	----	----
21.345	----	FAX Worldwide Amateur	----	24 hrs.
21.445	----	FAX Worldwide Amateur	----	24 hrs.
22.072	----	USA	----	----
23.075	WFN23	NY-AP USA	----	24 hrs.
28.690	----	FAX Worldwide (Amateur)	----	24 hrs.

One of the best and most reliable Commercial FAX stations to tune in on is NAM located in Norfolk, Virginia.. Frequencies of operation 3.357, 8.027, 8.080, 10.865, 16.410, 20.015. A schedule of transmission agendas is sent on Saturday at 0115Z (Friday evening 7:15 pm. CST). Retransmissions of the GOES Ghz. Satellite pictures are sent at 0100 and 1300Z at 12 hour intervals (7:00 pm. and 7:00 am. CST), 8:45 pm and 8:45 am., 10:45 pm. and 10:45 am., 11:45 pm. and 11:45 am., 2:45 pm. and 2:45 am. and 3:55pm. and 3:55 am. (CST). A special grey-level test chart is sent on Thursdays at 9:30 pm.

Those of you have have other FAX frequency and program schedule information please send it on to "A5" Magazine for publishment. Special thanks to W3CPR, KI1E, JA3CF, WB5TXA, DL2RZ, WB9HCZ, K6AEP, WB8BQT, and others for portions of this information. Also thanks to WORLDRADIO, MONITORING TIMES. CQ-JA and WORLDVIEW publications for additional excerps.

VHF/UHF/MICROWAVE FACSIMILE FREQUENCIES

117.4	DCF37	Germany	90	0702
131.8	FYA31	Paris, France	----	----
134.2	DCF54	Germany	----	1902
136.8	FYA36	Paris, France	----	----
137.75	LCV	Norway	120	----
137.5/ 137.62	APT	TIROS-N NOAA	AM-FM	----
1698.0/ 1707.0/ 1702.5	HRPT	----	PCM-PM	----
137.3	APT	Meteor	AM-FM	----
1685.0	GOMS	TV INFO	TBD	----
1687.1	HR-FAX		FM FM	----
1687.1	VISSR	GDES	PCM-PM	----
1691.0	LR-FAX	GMS	AM FM	----
1691.0	WEFAX	----	AM FM	----
1691.0/ 1694.5	WEFAX	----	AM-FM	----
1691.0	WEFAX	----	AM-FM	----
1694.5	HRPD	METEOSAT	PCM-PM	----

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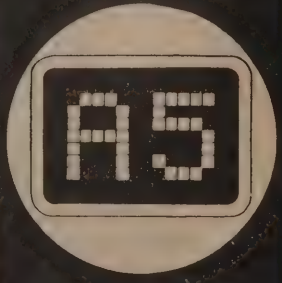

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NEW "UNITED STATES FAX NET" DRAWS FAVORITE CHECK-INS!

FREQUENCY CHANGES TO 14.245 MHz.

A "UNITED STATES FAX NET" commenced on Sunday February 5th, 1984 led by "A5 ATV MAGAZINE" and USATVS Members. The purpose of this Net is for information and picture exchanges in the A4/F4 Facsimile mode now legal for HF band operations in the United States. After a mixup in Net time listings (the correct time of the Net is at 3 P.M. EST, 2 P.M. CST, 1 P.M. MST, 12 Noon PST with some FAX enthusiasts starting up to an hour earlier before the Net on 14.240 Mhz.). Beginning Net Control Stations have been KI1E, WB0QCD, W3CPR, N7QM and K6AEP.

The following stations have participated in the U.S. FAX NET to date; W3CPR, N7QM, F14FX, W80MV, W8IZX, K4TGC, KC9KY, KI1E, WB0QCD, KX5I, WB0UNB, WB5TXA, KD4MI, N4HNO, K6AEP, W2WHK, W9NTP, N3AOF, W1BGW, WA8FIB, W1AI, W9LII, AI8Z, KZ1E, and others. On the Sunday, March 18th Net conducted by Warren Ziegler KI1E, the first "international" FAX guests checked in; LX1JE GEAN (pronounced John) who is 20 KM from Luxemborg and LX1MN Nick near Schieren. They have a group of FAX enthusiasts and set up a schedule for Thursday March 22nd with KI1E to attempt perhaps the "first" Across-the-pond European to USA FAX International picture contact ever. They have nearly all receive mode capabilities and transmit at the 120 line rate. They learned of the USA FAX NET from Japanese FAX enthusiast JA3CF.

"JAFA" (Japan Amateur Fax Association) is the largest Amateur FACSIMILE Group in the world. They have been in contact with the USATVS and are pushing for a slight change in the U.S. FAX operating frequency from 14.240 to 14.245 Mhz. JA FAX operators operate mainly HF at 14.245 and 28.690 Mhz. The USATVS recently received two fantastic "HAM JOURNAL" thick magazine issues from a JAFA member. The #32 WINTER 83 edition is a 160 page FAX Special Issue as is the #36 WINTER 84 edition. This is a really unique item for the serious FAX enthusiast to have. It is cramped full of hundreds of actual off-the-air Japanese FAX Photos, prints, schematics and pictures of FAX gear equipment used in Japan. The written text is completely in Japanese characters. These are two very thick books. If you would be interested in obtaining an "edited" copy of these, write to ESF Copy Service (see "A5" Ad) and send along $6.00 to cover the cost of copying, postage and handling.

The 14.240Mhz. suggested U.S. Amateur FAX operating frequency has been very crowded during the regular Sunday afternoon Net. Also HI-RES. SSTV'ers sometimes make use of this frequency during the week as well. For these reasons, plus to honor the request of the J.A.F.A. FAX organization and to keep in the spirit of INTERNATIONAL COOPERATION, beginning April 1st- the U.S. FAX NET and suggested U.S. operating frequency shall QSY up 5 to 14.245Mhz. This brings U.S.A. Amateur Facsimile operation into line with Japanese, German, Italy and Canadian FAX standards. Whether you are interested in Satellite receive only FAX, Shortwave band Press Photo Copying, Weather Chart Map Printing or Amateur Two-Way FAX Visual Communications, you should make a point to check-in to this Net and tell us of your capabilities and interests.

While we are speaking of Ralph Wilson WB0ESF, he has "revised" the #A5BS105 booklet BEGINNERS GUIDE TO FAX to be updated to include many of the 1983/84 articles concerning Amateur Facsimile operations. This "revised" March 84 released booklet has 68 pages and contains information from Atlantic Surplus Sales on Weather Satellites, NOAA Weather Symbol Chart, Landline FAX, WORLDVIEW FAX Newsletter information, QST 146U article on Geostationary Satellites, W8ASF's Blinky Tuner, UPI Color FAX, Hot CoCo Review of WB5TXA FAX Software, Hardcopy Printers by KA6DPV, Old Timer's FAX-W1BHD, TRS80C Interface Information by N7QM, New Wraase SC-1 SSTV/FAX Converter, JAFA, Expansion of FAX in the 1980's, USATVS FAX NET, Complete Western Union Conversion Information, Atlantic Surplus FAX TEST SET, German FAX freq. listing, and lots more good basic information.

Bob Wilson WB0RTM of RTM Circuit Boards informs us that he has received the information from Dr. Ralph Taggart on the new Clay Abrams K6AEP Radio Shack Color Computer FAX software/interfaces. He has designed the artwork for the new FAX boards and will have them available in April. See WB0RTM's New Ad in this issue of "A5"!

If your interested in what is going on in the World of Amateur Radio Facsimile visual communications, tune in on 14.245 Mhz. on Sunday afternoons at 3 P.M. EST. Many users of this Net make schedules for FAX operation with others for later on in the week. See you there! de WB0QCD

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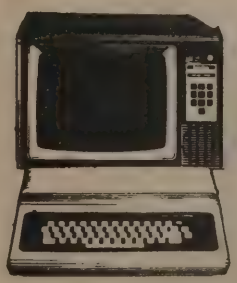

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SSTV: UN MODO QUE INTERESA MUCHO EN LAS BANDAS

por el Dr. George Steber, WB9LVI
ATV Magazine

Muchos radioaficionados se interesan en la SSTV, el modo de televisión por barrido lento y formulan de continuo las preguntas que se contestan en esta nota. Digamos a manera de inicio que trátese de un aficionado que ha perdido el interés en los modos más corrientes y quedado inactivo o de otro que busca nuevas formas de proseguir su actividad, estamos seguros que la SSTV es la respuesta.

¿Hacen falta equipos especiales?

Una de las preguntas que con más frecuencia se nos hace es *si resulta necesario usar receptores y transmisores especiales para poder comunicar en ese modo*. La respuesta es que ellos no son necesarios para operar en SSTV. Con el transceptor o equipos separados que Vd. tiene y el convertidor de SSTV puede enviar y recibir imágenes de TV sin problema alguno.

Para transmitirlas, la señal entra al equipo por el receptáculo del micrófono. Y la salida se toma de la correspondiente de audio, en uno y otro caso tal como hacemos en RTTY. Además del convertidor de barrido necesitará Vd. naturalmente una cámara de TV, el monitor correspondiente y algunos trozos de cable.

¿Qué diferencia hay entre FSTV y SSTV?

Otra pregunta que a menudo se nos hace es *qué diferencia hay entre la televisión que normalmente vemos en la casa y el modo de barrido lento o SSTV*. La respuesta es que el ancho de banda de la TV comercial es de aproximadamente 4,5 MHz mientras que la correspondiente a SSTV es de solamente 3 kHz. Puede así enviarse imágenes en canales de fonía. Lógicamente, ese ancho de banda no permite la transmisión de movimiento. Pero sí pueden transmitirse imágenes *fijas* de buena calidad durante periodos razonablemente cortos.

Los tiempos de transmisión varían entre 8 segundos para las estándar de baja resolución hasta 34 segundos para las de alta resolución.

¿Qué es la SSTV de alta resolución?

Como todas las ramas de la electrónica, la SSTV también ha evolucionado de su forma anterior de baja resolución.

Los convertidores de hace algunos años podían acumular solamente imágenes de 128 líneas, de 128 elementos (pixels) cada una, con 16 niveles de gris. Pero en la actualidad hay en el mercado convertidores como el *Microcraft Videoscan 1000*, por ejemplo, que producen imágenes de calidad mucho más alta. En este modelo se usan 256 elementos de imagen por línea, con 64 niveles de gris.

¿Hay redes de SSTV? ¿En qué frecuencia?

A los que preguntan si existen redes o estaciones que operan habitualmente en SSTV, les diremos que la red más popular es la que aparece los sábados por la tarde, aproximadamente a las 18 horas GMT en 14.230 MHz. Y si Vd. lo desea, tenga o no equipo de SSTV, puede en esa frecuencia hacer las preguntas que desee. Seguro que se las contestarán.

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THANKS TO JEREMY ROYLE G3NOX ENGLAND FOR MAKING THE COLOR SEPARATIONS USED ON THE FRONT COVER OF THIS SPECIAL ISSUE

Una revista publicada por Mike Stone, WB0QCD, para el radioaficionado especializado.

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"SSTV-ON-THE-BANDS"

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Send your SSTV pictures and shack photos to W2WHK for publishment in "A5"

Before going into "happenings on the bands", I would like to mention that Brooks (W1JKF) is looking for additional people to help with the Saturday afternoon net which operates at 1800 Z. Please contact him directly or via the regular SSTV Net.

TRS80C Computer Net

A TRS80C Color Computer SSTV net has been in operation on Sundays 1900 Z at 14.230 Mhz. Juan (NJ4E) has been Net Control during the time that I have monitored. It is being run very smoothly with 19 check-ins monitored on Feb. 19th.

U.S.A. Fascimile Net

A "UNITED STATES FAX NET" also operates on Sunday at 3 P.M. EST at 14.245 Mhz. There seems to be quite an interest in this mode, with check-ins being, K11E, K6AEP, WB0UNB, W81ZX, W3CPR, N7QM, and WB0QCD, just to mention a few. For those interested in FAX, a good description of the Wraase SC-1 Converter appeaared in a March issue of this magazine. It has both SSTV and FAX capability. WB0ESF also has a special $5.00 FAX booklet available (see A5 Ad).

Suding SSTV Converter

Regarding W0LMD Robert Suding's SSTV Scan Converter, there are at least half a dozen fellows using homebrew units. The following users are VE3EKA, W3LDS, N3TV, and W3ATV, and can be heard 7:00 A.M. EST daily on 3.845 Mhz. Those listed have been monitored by me on occasion. Several others are also in the group, but I don't remember their calls. Will keep you posted as to who they are. Robert's Scan Converter information has appeared in past "A5" issues. The latest being in the November 1983 issue.

W9NTP

I understand that Don Miller (W9NTP) has been in the process of designing 2 PC Boards to replace the 6 boards now used with the W0LMD system. Don and his XYL Sue, have been devoting time developing this new layout. For those attempting this complicated project, the reduction of boards will certainly simplify it's construction.

Interface Systems

Sam (WA7WOD) has his SSTV computer interface about 75% completed as of this writing. Perhaps now that "Dayton" is over, you may have already seen the finished product. His system is a modified Robot 400 using 12 (64K) rams, video input multiplexing and timing circuits that provide excellent results, both receiving and transmitting. It has the following modes of operation: 8.5 sec. frame sequential, 17 sec. high resolution frame sequential, 128 line sequential (25.5 sec.) and 256 line sequential. Storage Capability: 12 B&W pictures (128x128), 6 high resolution B&W pictures (128x256), 4 full color pictures (128x128) 4,096 hues of color and two high resolution full color pictures (128x256) 4,096 hues of color. Total Capability: Use a B/W camera and RGB filters to get full color pictures. Instantly snatch color pictures using color camera, instantly snatch a commercial or public color television picture, single snatch from VCR composite or RF outputs, interface any computer (B/W or Color) using the I/O port. Can display, transmit and receive 1x1 aspect ratio or 4x3 ratio, and overlay graphics (snatch and receive modes) over any picture in memory. A price list is available from Interface Systems, Route 4, Box 634K, Lindale, TX. 75771.

Hi-Res. SSTV

I am not presently in SSTV color but have seen his B/W 17 sec. hi-resolution pictures and the quality is very good. Many of the fellows are using his modifications and they can be seen on 14.230 Mhz. frequently, swapping pictures in color.

W4IAW Visits Russia

During my contacts on Slow Scan, I had the pleasure of meeting Lee (W4IQW) who was transmitting pictues of a country he had visited last May. He was using a "Video-Scan 1000" with Hi-Resolution, 34 sec. scanning. The results were excellent.

The Story

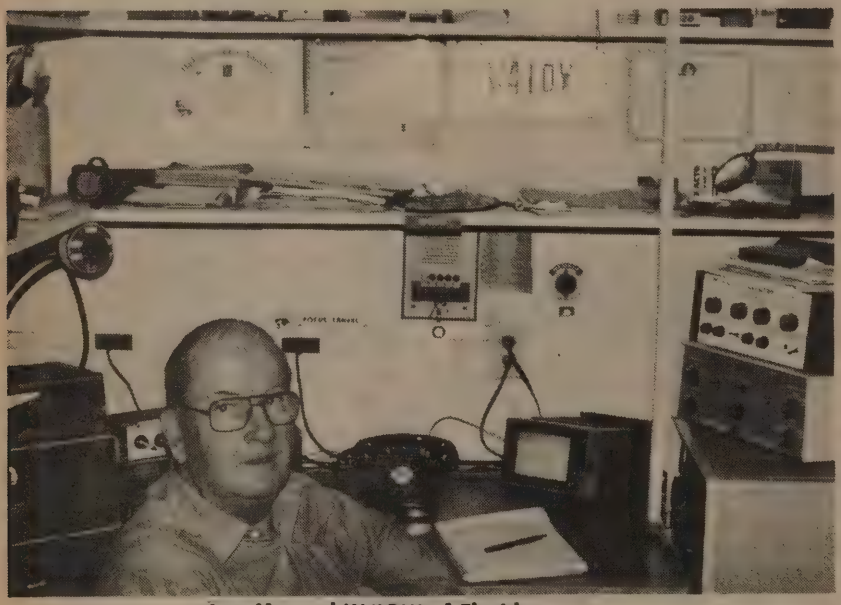
Lee had been to England, Italy and other European countries, but for this trip decided it was going to be a visit to the U.S.S.R. He took along his Sony camera and portable VCR instead of a regular camera. The slow scan pictures were taken from the VCR tape. Lee has been in Slow Scan for about 10 years having started out with the P7. He is now the owner of a "Robot 400C", and the "Microcraft Video Scan 1000". Here is a run-down of Lee's comments regarding his trip; "A group of about 30 of us left Daytona Beach by plane for New York where we transferred to a SWISSAIR jet, leaving about 7 P.M., stopping briefly in Amsterdan and Stockholm, and continuing on to Helsinki, Finland. At that point we transferred to a Russian AEROFLOT airliner to Moscow. Customs and entry into Russia was a bit difficult and time consuming but, they seemed more interested in what books and magazines we were carrying, than all of my electronic equipment. No problem with the portable VCR, camera, charger and converter. Each night I would use my 220v 50 cycle ac converter to plug in the battery charger and charge two one hour batteries for the next days recording. I could always find power although some times the adapters were difficult to make fit. I carried my VCR anywhere I wanted, downtown Moscow, in the hotel, in museums, on buses etc. and never was stopped or censored in any way. From Moscow we went by bus to Suzdal and Vladimir, two towns of historical significance, and in Suzdal they have restored the old wooden houses, that can be seen on my tape, to their original condition. They have made this area a tourist attraction. We returned to Moscow after the bus trip, and next took the train at about 11 p.m. to Leningrad, arriving about 8 a.m. the next morning. The rest of the time was spent in Leningrad, touring by

(A5 SSTV Readers are encouraged to write the author directly)

bus, visiting museums and cathedrals, palaces etc. We left Leningrad for a short flight on AEROFLOT to Helsinki, where we spent one night ast Hoetl Presidentti and then left on FINNAIR for NYC and back to Daytona Beach. 73, Lee W4IQW"

At the present time many countries do not permit SSTV on the "Ham" bands so Lee's pix give us an opportunity to see lands, sites, and people of other countries where lives are so much different from our own. Maybe next year he will travel to China or some other country where "Ham" radio hasn't made much of an inroad. The pictures were great, Lee: Look for W4IQW on 20,40, 15 and 10 meters. His Qth, is Daytona Beach, Florida. Any owners of the Video Scan 1000 or those capable of 17 or 34 sec. Hi-Res SSTV, that would like to have a get together on Slow Scan TV please contact me. For now, "see" you on the bands! 73's de Don-W2WHK

First Picture of Wraase FX-655 "Receive Only" Fax Receiver



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SSTV STANDARDS

ARE WE REALLY ENHANCING THE STATE-OF-ART?

by Mike Stone

" We are constantly asked by our "A5" SSTV readers as to our opinion on the many new methods currently being used to send and receive Slow-Scan Television. Having always been the type of individual to speak what's on my mind-regardless of whose toes might get stepped on, I now offer my basic thoughts about the situation on paper. I hope that the following paragraphs are taken in context concerning the overall problem with an enhanced emphasis on a spirit of much needed cooperation." -WB8QCD

SSTV in the 1980's is at perhaps one of the most "confusing" times in stored image video communication history. To the newcomer, it becomes and absolute nightmare trying to figure out just what is taking place on the bands, let alone what type of gear to build or buy. While one contact says to go with a heavily modified established type of SSTV gear, another says "don't be outdated" and buy one of the newer models. A famous German SSTV designer announces a new all-mode system while at the same time a U.S. Wisconsin manufacturer claims "HI-RES." is the only way to go. Tuning across the HF band SSTV "hotspots", one hears more of an equipment technical contest among various users rather than a long near lost "enjoyment" in picture content. Some 27 years have passed since Copthorne MacDonald W0RXZ began his pioneering experiments for the Navy North Pole expo ditions. One would have thought that the task of developing an 8 second, single frame color SSTV system would have been by now long behind us. Unfortunately, today's SSTV'ers are generally willing to accept "quick-fix" methods of putting SSTV color on the screen, regardless of the drawbacks. If one of these inferior systems were to emerge as the popular standard, we would all be stuck with second rate standards forever. The most recent "quick-fix" method to appear on the scene, is in the new 12 second color systems. Aside from doing in 12 seconds what has already been proven can be done in 8 seconds (W0LMD), the system has serious compatibility problems with some types of older gear (P7) and other phase locked loop horizontal sync circuitry. This problem is addressed at great technical length in a paper authored by SSTV'er N2DDL Dean R. Morelli, Manhattan Ave. South Park Drive, Rye, N.Y. -10580 This multipaged 12 part article can be obtained by writing "A5" directly. Please include $2.00 for printing postage handling reimbursement. (Recommend reading for the serious SSTV'er).

"NO ONE OWNS THE MODE..."

To complicate SSTV Standards even further, the west coast manufacturer of the proposed 12 second system, answered a popular SSTV computer software programmer who wanted to upgrade his own following to the new 12 second mode with an unbelievable legal claim in ownership to the frame rate "mode" offerring a 10% royalty option. This royalty requirement was even perpetrated on other leading SSTV experimenter/builder/manufacturers as well, in a move which astounded many in the so-called spirit of Amateurism. As a result, only one (probably unaware of this as yet untested requirement) individual has included the 12 second mode in his own line of gear. This perhaps in part, answers the question of why less than 60 twelve second systems have appearred on the active SSTV operating frequencies. Contrary to some belief, the days of domination in the SSTV marketplace are gone forever. Only through cooperation and "multi-mode" capabilities will future manufacturers survive the heavy bombardment of competition. Even the 50/60 hz. sync rate seems to be in question with German designer Volker Wraase now placing a standard 55 hz. sync clock timer in all of his units so to meet halfway the designs of the western world. With electrical line frequency rates no longer at issue using crystal controlled microproccesor units, the question does indeed become a valid one.

We are not trying to point an accussing finger at any one individual or company with this article on SSTV standards. Our goal is to only attempt to question and steer the possible direction of thinking momentum that lies with today's builders and buyers. No matter what we seem to get into, no one group ever seems to agree on much of anything. We hope that Amateur Radio SSTV'ers will set aside the hungry desire for profitability and mass distribution popularity and devote a bit more time and thinking to affordability and compatibility. After all, the future of SSTV visual communications may depend upon it! -WB8QCD

RTM CIRCUIT BOARDS EXPANDS LINE OF TRS80C* INTERFACES!

NEW W-10 FAX BOARD ADDED

RTM CIRCUIT BOARDS (Bob Wilson WB8RTM) of Van Horne, Iowa has updated their line of TRS80C* circuit board interfaces for K6AEP Amateur Radio Software programs.

The W-1A CW Receive and Transmit (CW) board is 2 1/8 inches X 3 11/16 inches and is made up from scheme using 3900 and 556. It also has 1458 added for limiter, with provisions for relay or solid state keying on board 7805 Voltage regulator. The PC Board alone sells for $5.00 and the PC Board with Parts Package with Relay Keying is $20.00 and PC Board with Parts Package with Solid State Keying is $22.00.

The W-2 RTTY Transmit Modulator (RTTY) board is 1 7/8 inches X 2 1/8 inches and is made up from scheme using XR 2206 and operates from user supplied + & - 12 VDC. The PC Board sells for $3.00 and the PC Board with Parts Package sells for $16.00.

The W-3A SSTV Transmit Modulator (Clay's 7.4 - 7.6) board is 1 7/8 inches X 2 1/2 inches and is made up from scheme using XR 2206 with 1458 added for full swing, operates from user supplied + & - 12 VDC. The PC Board sells for $3.00 and the PC Board with Parts Package sells for $25.00.

The W-5 SSTV Receiver..(Clay's 7.4-7.6) board is 2 1/2 inches X 5 inches and is made up from scheme using 1458's and 7414. It operates from user supplied + & - 12 VDC. The PC Board sells for $7.00 and the PC Board with Parts Package sells for $25.00.

The W-6 RS 232 for TU-170..(Fleshe r TU-170) board is 1 3/8 inches X 1 3/4 inches and is made from info supplied by Flesher when I purchased my TU-170. The PC Board is $2.50 and the PC Board withParts Package is $5.00.

The W-7 Serial to Parallel Converter for MX-80 (Clay's 7.5) board is 2 1/2 inches X 2 3/4 inches and is made up from scheme using AY-3-1014A and MC14411, with 74LS04 and operates on + 5 VDC from MX-80. The PC Board sells for $6.00 and the PC Board with Parts Package sells for $38.00.

The W-8A Video Amp for TRS80C* (PC Elec) board is 1 1/4 inches X 2 1/4 inches and is made up from PC Elec. Video Amp Scheme. It provides video output from Computer. The PC Board sells for $5.00 and the PC Board with Parts Package sells for $12.00.

The W-9 SSTV Receive for Robot 400 (Clay's 7.6) board is 1 1/2 inches X 2 inches and is made up from scheme using 1458, 74367 and 74LS00. It operates on voltage available in Robot. The PC Board sells for $2.50 and the PC Board with Parts Package sells for $9.00.

The newest addition to the RTM Circuit Board Family is W-10 (Ralph Taggart's CCF2-1) WEFAX board which is 4 1/8 inches X 5 7/8 inches and operates on user supplied + & - 12 VDC; + 5 VDC. The PC Board sells for $15.00 and the PC Board with Parts Package sells for $50.00.

The CCF2 FAX interface is designed to provide display of weather satellite and other FAX formats using the TRS80C Computer with the K6AEP High Resolution display board and WEFAX Software package available from Clay Abrams Software. The circuit is an enhanced version of the circuit originally published by K6AEP and WB8DQT in 73 Magazine. Basically this version will perform all of the functions of the original but with a major reduction in chip count (from 15 to 9), greatly reduced power requirements and an overall smaller size.

Price includes PC Board with sheet of paper showing location documentation and parts list. Parts package includes all parts for the PC Board; no interconnecting cables or connectors provided. Price effective 4-1-1984. Prices subject to change without notice. All software is available direct from Clay Abrams K6AEP, 1758 Comstock Lane, San Diego, California. No Phone orders--No C.O.D.'s--Iowa residents add 4% sales tax. Send check or money order. Your order will be returned by First Class Mail. Add: $2.00 for Shipping and Handeling. *TRS80C is a product of Radio Shack, Tandy Corp.

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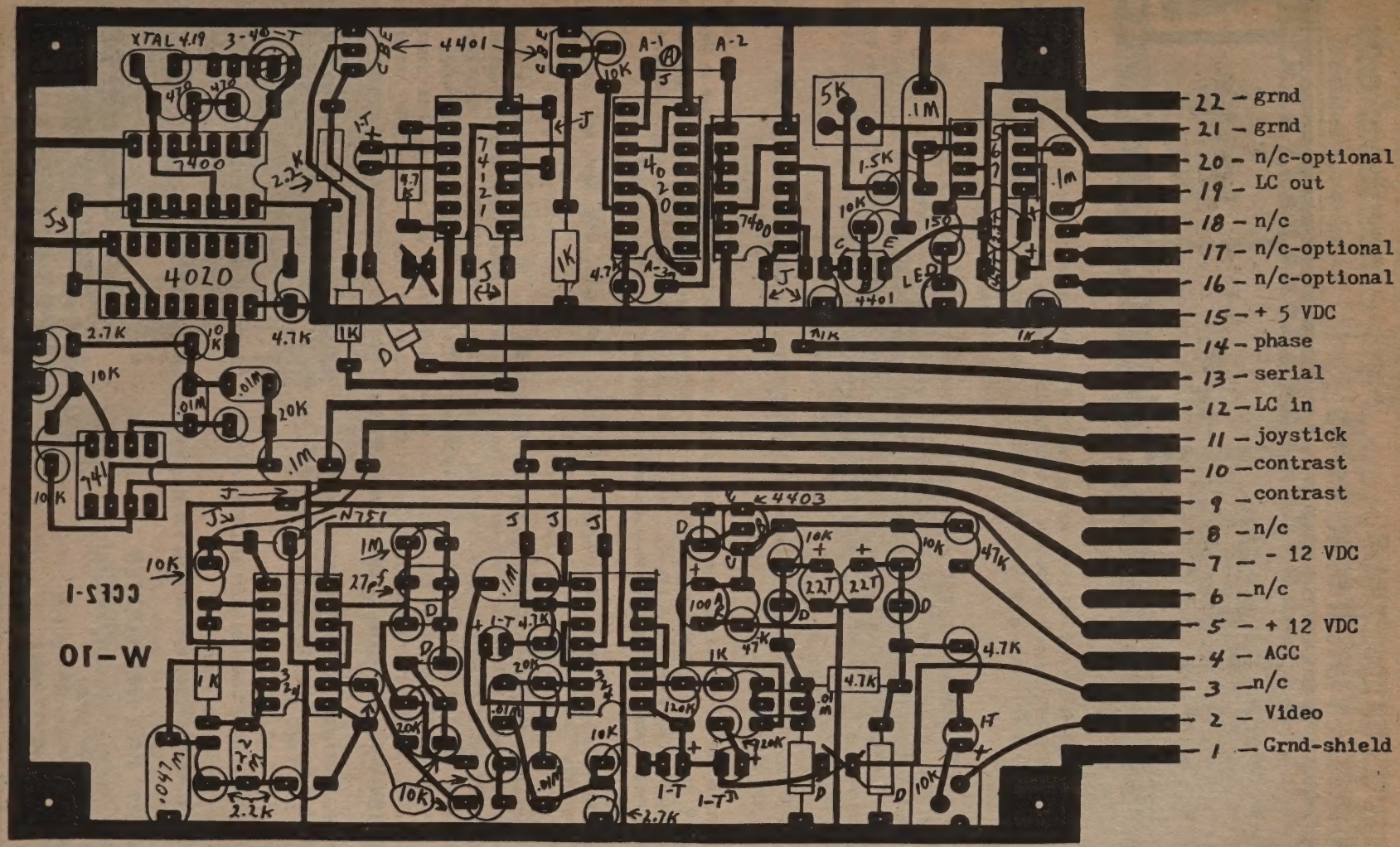

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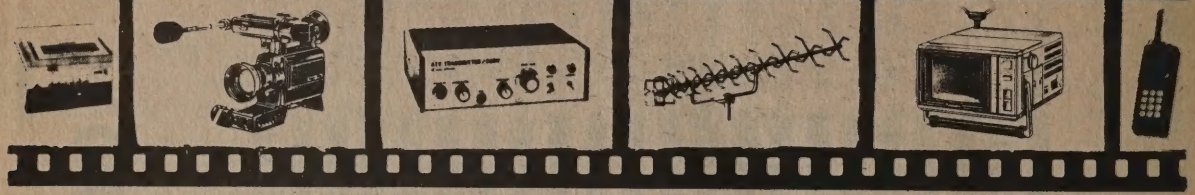

NOTICE-For those few who might have gotten the early versions of the PROC AMP-1 board at Charlotte, there are a few minor changes on the schmatic diagrams. R11 should be YEL/VIO/OR. R15 should be YEL/VIO/RED. The unlabeled resistor below Q3 is R17 and above Q3 is R17. Also, polarity on C5 should be reversed. Changes have been made on all kits after Charlotte.-WA4UMU.

NEW ITEM FOR SALE-How many times have you tried to remember where you saw that article for the project you are now working on? Or how about wishing you had a listing of HAM RADIO articles published under one cover? Well, look no further! NEW from WB0ESF Copy Service; MASTER HAM JOURNAL INDEX GUIDE #111-A listing of over a dozen major Amateur and Computer publications listing articles published with date and volume/issue number references. Over 100 pages of excellent reference information for only $10.00. Please include $1.00 for return postage mailing. ESF COPY SERVICE, 4011 Clearview Drive, Cedar Falls, Iowa 50613.

LOOKING for Apple II SSTV program information. All replies apprecjated. Peter Young LAM, 385 Nathan Rd, PING ON Bldg, 15th Floor, Block #2, Kowloon, Hong Kong.

APOLOGY-Sometimes a person can get carried away and do things unintentional in bad taste. Such was the case in the March issue under page 40 in the A5 classified ads. An ad was published for X-rated videotapes under the name of Frank Wolczak WA0IWF of Nebraska. Frank never placed the ad, I did as a joke. My friendship with Frank is more valuable than any possible personal embarrassment. My apologies to Frank and to any who were offended by it-WB0QCD

FOR SALE-RJ4 Weatherfax Recorder with manual and 2 rolls of paper. Contact John W6JX, 2930 West Keel Way, Oxnard, California 93033 Phone (805) 985-9941.

FOR SALE-1-G.E. Vidicon Camera #4PC9A1 with instruction book and diagrams, $20.00. 50 foot of connecting cable and connectors from Camera to control unit, $5.00. 1-G.E. Vidicon Control Unit for the above Camera, with instruction books and diagrams $5.00. 1-8572 Vidicon camera tube $5.00. 1-8134 V1 Vidicon camera tube, $5.00. 1-Sync Generator with capability for 405,525 or 625 lines & vertical Sync, plus diagrams and instructions. 1-TV Signal Analysis Manual $2.50. 1-RCA Transmitter-Receiver Type CMU-10A 450-470 Mhz. Transmitter, may be broadbanded for ATV pictures. With manual and diagrams (10 watts out) $10.00. Also have 2 spare tubes for the RCA transmitter; industrial type 829B's, $4.00 each. Thanks A5! Contact Gordon Schnehl W7LVU, P.O. Box 26913, Tempe, Arizona 85282-0310.

WANTED-Information on interfacing a TELETYPE Model 35 RO to a Radio Shack Color Computer. Also looking to buy a SSTV ROBOT Viewfinder Model 60 or 61. Please contact Carl E. Nay K8VQG, Box 471, Bettsville, Ohio 44815. Phone (419) 986-5890 after 5:00 EST.

WANTED-Spec sheet, illustration or manual on old time CART-A-VISION VTR. Can you help me? -D. Testa Jr., P.O. Box 9864, Newark, NJ. -07104.

WANTED: Operating manual for TOHO-DENKI #201-GR Photo Fax Recorder. Contact Harvey WDX1FAX, 99 Chestnut St., Brookline, MA. 02146

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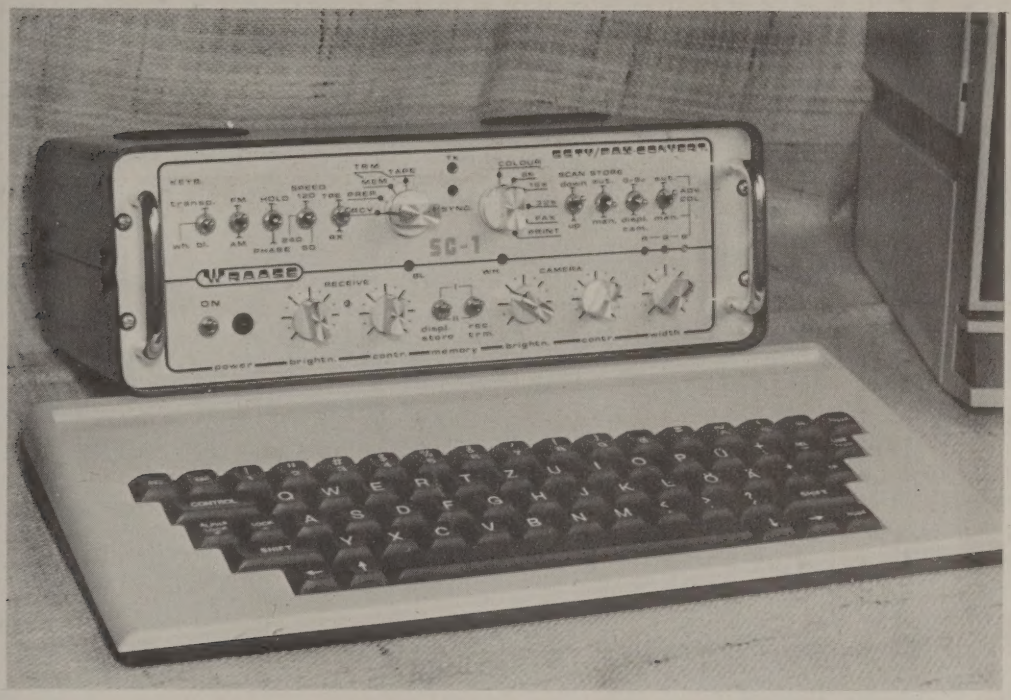

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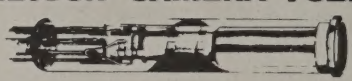

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